DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY OPERATING PERMIT

Permit No. AQ0417TVP01 Issue Date: November 10, 2003
Application No. 417 Expiration Date: December 9, 2008
Revision 2: August 19, 2005

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating permit to the Permittee, **BP Exploration (Alaska) Inc.**, for the operation of the **Badami Development Facility (Badami)**.

This permit satisfies the obligation of the owner and operator to obtain an operating permit as set out in AS 46.14.130(b).

As set out in AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this operating permit.

All stationary source-specific terms and conditions of Air Quality Control Construction Permit No. AQ0417CPT05 Revision 1, have been incorporated into this Operating Permit.

This Operating Permit becomes effective January 1, 2004. Revision 2 becomes effective August 20, 2005.

John F. Kuterbach, Manager

Air Permits Program

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List of Abbreviations

AAC .....Alaska Administrative Code
ADEC.....Alaska Department of Environmental Conservation
AS .....Alaska Statutes
ASTM .....American Society for Testing and Materials
bbl .....barrel
BACT.....Best Available Control Technology
BHp.....Boiler Horsepower
C.F.R. .....Code of Federal Regulations
CO.....Carbon Monoxide
CPF .....Central Process Facility
dscf.....Dry standard cubic foot
EPA.....US Environmental Protection Agency
°F.....degrees Fahrenheit
FITR.....Fuel Injection Timing Retard
FR.....Federal Register
gr./dscf .....grain per dry standard cubic foot (1 pound = 7000 grains)
GPH.....gallons per hour
HAPs or HACs.....Hazardous Air Pollutants or Hazardous Air Contaminants [*HAPs* or *HACs* as defined in AS 46.14.990(14)]
hp.....horsepower
ID .....Emission Unit Identification Number
kPa.....kilopascals
kW.....kiloWatts
LAER .....Lowest Achievable Emission Rate
LHV .....Lower Heating Value
LT.....Long Term (warm shutdown)
MACT.....Maximum Achievable Control Technology as defined in 40 C.F.R. 63.
MR&R.....Monitoring, Recordkeeping, and Reporting
N/A.....not available
NESHAPs .....Federal National Emission Standards for Hazardous Air Pollutants [*NESHAPS* as contained in 40 C.F.R. 61 and 63]
NO_X.....Nitrogen Oxides
NSPS.....Federal New Source Performance Standards [*NSPS* as contained in 40 C.F.R. 60]
O & M.....Operation and Maintenance
O_2 .....Oxygen
PM-10 .....Particulate Matter less than or equal to a nominal ten microns in diameter
ppm .....Parts per million
ppmv, ppmvd .....Parts per million by volume on a dry basis
psia.....Pounds per Square Inch (absolute)
PSD .....Prevention of Significant Deterioration

PTE .....Potential to Emit
R.....Recharge (warm shutdown)
SIC. .....Standard Industrial Classification
SIP.....State Implementation Plan
SO_2 .....Sulfur dioxide
TPH.....Tons per hour
TPY .....Tons per year
VOC.....volatile organic compound [*VOC* as defined in 18 AAC 50.990(103)]
VOL .....volatile organic liquid [*VOL* as defined in 40 C.F.R. 60.111b, Subpart Kb]
vol%.....volume percent
wt% .....weight percent
wt%S.....weight percent sulfur

Section 1. Identification

Names and Addresses

Permittee:	BP Exploration (Alaska) Inc. 900 East Benson Boulevard P.O. Box 196612 Anchorage, Alaska 99519-6612
Stationary Source Name:	Badami Development Facility
Location:	UTM Zone 6 Northing 7782.6 km Easting 494.6 km
Physical Address:	Badami Unit, North Slope, Alaska
Owner:	BP Exploration (Alaska) Inc. 900 East Benson Boulevard (zip 99508) P.O. Box 196612 Anchorage, Alaska 99519-6612
Operator:	BP Exploration (Alaska) Inc. 900 East Benson Boulevard (zip 99508) P.O. Box 196612 Anchorage, Alaska 99519-6612
Permittee's Responsible Official	Craig L. Wiggs, ACT East Delivery Manager
Designated Agent:	CT Corporation System 801 West 10th Street, Suite 300 Juneau, Alaska 99801
Stationary Source/Building Contact:	Jeff Eckstein, Operations Manager (907) 659-6555 end/badareamanager@bp.com
Fee Contact:	Alison Cooke, Air Specialist MB11-6, P.O. Box 196612 Anchorage, AK 99519-6612

Stationary Source Process Description

SIC Code:	1311 Crude Petroleum and Fuel gas Production
NAICS Code:	211111

[18 AAC 50.350(b)(1), 1/18/97]

Section 2. Emission Unit Inventory and Description

[18 AAC 50.350(d)(2), 1/18/97]

Emission Units listed in Table 1 have specific monitoring, recordkeeping, or reporting conditions in this permit. Emission unit descriptions and ratings are given for identification purposes only.

Table 1 – Emission Unit Inventory

Emission Unit	Tag Number	Name	Description	Fuel	Rating/size	Install Date
417	417	Diesel Tank	Storage Tank	N/A	15,000 bbl	1997
418	418	Methanol Tank	Storage Tank	N/A	450 bbl	1997
419	419	Glycol Skid Heater	Unknown	Diesel	1.05 MMBtu/hr	1998
420	420	Main Generator	Cummins IC Engine	Diesel	1,855 hp	1997
421	421	Main Generator	Cummins IC Engine	Diesel	1,855 hp	1997
500	500	Turbine	Solar Mars 90	Fuel gas	11,862 kW	1998
501	501	Turbine	Solar Mars 90	Fuel gas	11,862 kW	1998
502	502	Incinerator, Waste Combustion	Therm-Tec G-12	Propane or Fuel gas	85 Lb/hr	1998
503	503	Production Heater	NATCO	Fuel gas	34 MMBtu/hr	1998
504	504	Miscible Injection Heater	NATCO	Fuel gas	14.87 MMBtu/hr	1998
505	505	TEG Reboiler	NATCO	Fuel gas	1 MMBtu/hr	1998
507	507	Flare - Pilot, Purge, Assist, and Produced Gas	Unknown	Fuel gas	257.9 MMscf/yr	1998
508	508	TEG Storage Tank	Unknown	NA	110 bbl	1998
Portable Equipment						
422	N/A	Smart Ash Incinerator	Smart Ash 100-A (on storage pad)	Oily Waste	0.035 tons.hr	N/A
Drill Rig Equipment						
1	N/A	Rig Engines	Unknown	Diesel	N/A	N/A
8	N/A	Rig Boilers and Heaters	Unknown	Diesel	N/A	N/A

Table Notes:
N/A means not available:

Section 3. Emission Fees

1. Assessable Emissions. The Permittee shall pay to the Department an annual emission fee based on the stationary source's assessable emissions as determined by the Department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410(b). The Department will assess fees per ton of each air pollutant that the stationary source emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of:

1.1 the stationary source's assessable potential to emit of 738 TPY; or

1.2 the stationary source's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the Department, when demonstrated by:

a. an enforceable test method described in 18 AAC 50.220;

b. material balance calculations;

c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035 or;

d. other methods and calculations approved by the Department**.**

[18 AAC 50.346(a)(1), 5/3/02 and 18 AAC 50.350(c) & 50.400 – 50.420, 1/18/97]

2. Assessable Emission Estimates. Emission fees will be assessed as follows:

2.1 no later than March 31 of each year, the Permittee may submit an estimate of the stationary source's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795. The submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates; or

2.2 if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set forth in condition 1.1.

[18 AAC 50.346(a)(1), 5/3/02 and 18 AAC 50.350(c) & 50.400 – 50.420, 1/18/97]

Section 4. Emission Unit-Specific Requirements

Fuel-Burning Equipment

3. Visible Emissions. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Emission Units 419, 420, 421, 500, 501, 503, 504, 505 and 507 listed in Table 1 to reduce visibility through the exhaust effluent by any of the following:

a. more than 20 percent for a total of more than three minutes in any one hour;[1]

[18 AAC 50.055(a)(1), 1/18/97 and 18 AAC 50.350(d)(1)(C), 6/21/98]
[40 C.F.R. 52.70, 7/01/01]

b. more than 20 percent averaged over any six consecutive minutes[2].

[18 AAC 50.055(a)(1) & 50.346(c), 5/3/02 and 18 AAC 50.350(d)(1)(C), 6/21/98]

The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Emission Units 500 and 501 listed in Table 1 to reduce visibility through the exhaust effluent by the following:

c. 10 percent opacity for greater than three minutes in any one hour;

[BACT Limit, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.A.6.b]

The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Emission Units 420 and 421 listed in Table 1 to reduce visibility through the exhaust effluent by the following:

[BACT Limits, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.A.6.a]

d. 20 percent opacity for greater than three minutes in any one hour, during normal operations and Recharge (R) warm shut down.

e. 10 percent opacity for greater than three minutes in any one hour, during Long Term (LT) warm shut down.

3.1 For Emission Unit 419 conduct a visible emission surveillance in accordance with condition 63.4 and condition 4, not less than once per calendar year.

[State VE Standard monitoring & recording, Construction Permit No. AQ417CPT05, Revision 1, Condition VIII.D.1]

3.2 For Emission Units 420 and 421, for compliance with both the state standard listed in conditions 3.a and 3.b, and with the BACT limits listed in conditions 3.d or 3.e,

[1] For purposes of this permit, the "more than three minutes in any one hour" criterion in this condition and conditions 7.a and 47.1 will no longer be effective for Units 503, 504, 505, and 507 when the Air Quality Control (18 AAC 50) regulation package effective 5/3/02 is adopted by the U.S. EPA. (The three-minute standards listed in conditions 3.c, 3.d, and 3.e for Units 420, 421, 500, and 501 are BACT limits, and will remain effective until revised in accordance with 18 AAC 50.)

[2] The six-minute average standard is enforceable only by the state until 18 AAC 50.055(a)(1), dated May 3, 2002, is approved by EPA into the SIP at which time this standard becomes federally enforceable.

conduct visible emission surveillance in accordance with condition 63.4 and condition 4 and as follows:

[18 AAC 50.346(c) & 50.350(g) - (i), 5/3/02]
[PM BACT monitoring, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.B.3]
[State VE monitoring and recording, Construction Permit No. AQ0417CPT05, Revision 1, Condition VIII.D.2]

a. except as indicated in condition 3.2b, conduct the surveillance on each unit no less than once per calendar quarter; and

b. if four consecutive quarters show compliance with a standard listed in condition 3.d or 3.e, for a given unit; then the Permittee may reduce the frequency of visible observations required in condition 3.2a for that standard and that unit to no less than once per calendar year.

3.3 For Emission Units 500, 501, 503, 504, and 505, certify in each Operating Report under condition 77 whether the emission units fired only fuel gas.

[PM BACT reporting, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.B.3]
[State VE reporting, Construction Permit No. AQ0417CPT05, Condition VIII.D.3]

3.4 For Emission Unit 507 (Flare system), conduct one visible emission surveillance each calendar year during a maintenance flare event, if an event occurs during the calendar year, in accordance with condition 63.4 and condition 4.

[State VE monitoring & reporting, Construction Permit No. AQ0417CPT05, Revision 1, Condition VIII.D.4]

3.5 Upon Department request, conduct a visible emission or particulate matter surveillance in accordance with condition 63.4 and condition 4.

[State VE & PM mr&r, Construction Permit No. AQ417CPT05, Revision 1, Condition VIII.D.5]

4. Visible Emission Monitoring, Recordkeeping, and Reporting. The Permittee shall observe the exhaust of an emission unit as follows:

4.1 Monitoring. Observe exhaust for 18 minutes to obtain 72 consecutive 15-second opacity observations.

4.2 Recording.

a. Record on the Visible Emissions Field Data Sheet in Section 12:

(i) The name of the stationary source, emissions unit and location, stationary source type, observer's name and affiliation, and the date.

b. The time, estimated distance to the emissions location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), plume background and operating rate (load or fuel consumption rate) on the sheet at the time opacity observations are initiated and completed. Include the operating mode of the emission unit (e.g. normal, standby, redundant operation, or idle running).

(i) The presence or absence of an attached or detached plume and the approximate distance from the emissions outlet to the point in the plume at which the observations are made.

(ii) Opacity observations to the nearest five percent at 15-second intervals.

(iii) The minimum number of observations required by the permit, each momentary observations recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

(iv) The operational mode of the stationary source (e.g. normal operations, R warm shutdown, LT warm shutdown).

[State VE monitoring & recording, Construction Permit No. AQ0417CPT05, Revision 1, Condition VIII.D.1]

c. Determine the six-minute average opacity by dividing the observations recorded on the record sheet into sets of 24 consecutive observations. Sets need not be consecutive in time and in no case shall two sets overlap. For each set of 24 observations, calculate the average by summing the opacity of the 24 observations and dividing this sum by 24. Record the average opacity on the sheet.

4.3 Reporting. Report Visible emissions as follows:

a. Include in the operating report required under condition 77

(i) Visible Emission Report forms

[State VE reporting, Construction Permit No. AQ0417CPT05, Revision 1, Condition VIII.E.1]
[BACT reporting, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.C.4]

(ii) A summary to include:

(A) Number of days observations were made;

(B) Highest six-minute average observed; and

(C) Dates when one or more observed six-minute average was greater than 20 percent.

(D) Any monitoring or recordkeeping required under conditions 4.1 and 4.2 that was not done.

b. Report under condition 75:

(i) the results of Method 9 observations that exceed an average of 20 percent for any six-minute period; and

(ii) if any monitoring under condition 4.1 was not performed when required, report within three days of the date the monitoring was required.

5. Particulate Matter. The Permittee shall not cause or allow particulate matter (PM) emitted from Emission Units 419, 420, 421, 500, 501, 503, 504, 505 and 507 listed in Table 1 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours:

[18 AAC 50.346(c), 5/3/02; 18 AAC 50.055(b)(1), 1/18/97and 18 AAC 50.350(d)(1)(C), 6/21/98]
[18 AAC 50.350(g) – (i), 5/3/02]

5.1 For Emission Units 419, monitor, record, and report in accordance with condition 3.1 and 3.5.

[State PM mr&r, Construction Permit No. AQ0417CPT05, Revision 1, Conditions VIII.D.1 & VIII.D.5]

5.2 For Emission Units 420 and 421, monitor, record and report in accordance with condition 3.2 and 3.5, and as follows:

[State PM mr&r, Construction Permit No. AQ0417CPT05, Revision 1, Conditions VIII.D.2 & VIII.D.5]
[18 AAC 50.350(g), 1/18/97 & 50.346(c), 5/3/02]

a. Except as provided in condition 5.2d, within six months of exceeding the criteria of condition 5.2b(i) or 5.2b(ii), either:

(i) conduct a PM source test according to requirements set out in Section 8; or

(ii) make repairs so that emissions no longer exceed the criteria of condition 5.2b; to show that emissions are below those criteria, observe emissions as described in condition 3.2 under load conditions comparable to those when the criteria were exceeded.

b. Conduct the test according to condition 5.2a if:

(i) 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity greater than 20 percent; or

(ii) for a source with an exhaust stack diameter that is less than 18 inches, 18 consecutive minutes of Method 9 observations result in an 18-minute average opacity that is greater than 15 percent and not more than 20 percent, unless the Department has waived this requirement in writing.

c. During each one-hour PM source test run, observe the exhaust for 18 minutes in accordance with Method 9 and calculate the average opacity that was measured during each one-hour test run. Submit a copy of these observations with the source test report.

d. The automatic PM source test requirement in conditions 5.2a and 5.2b is waived for an emissions unit if a PM source test on that unit has shown compliance with the PM standard during this permit term.

e. **Recordkeeping.** Within 180 calendar days of the effective date of this permit, the Permittee shall record the exhaust stack diameter(s) of Emission Units 420

and 421. Report the stack diameter(s) in the next Operating Report under condition 77.

[18 AAC 50.346(c) & 50.350(h), 5/3/02]

f. **Reporting.** The Permittee shall report for Emission Units 420 and 421 as follows:

[18 AAC 50.346(c) & 50.350(i), 5/3/02]

(i) report under condition 75:

(A) the results of any PM source test that exceeds the PM emissions limit; or

(B) if one of the criteria of condition 5.2b was exceeded and the Permittee did not comply with either condition 5.2a(i) or 5.2a(ii), this must be reported by the day following the day compliance with condition 5.2a was required.

(ii) report observations in excess of the threshold of condition 5.2b(ii) within 30 days of the end of the month in which the observations occur;

(iii) in each Operating Report under condition 77, include:

(A) the dates, emission unit(s), and results when an observed 18-minute average was greater than an applicable threshold in condition 5.2b;

(B) a summary of the results of any PM testing under condition 5.2; and

(C) copies of any visible emissions observation results (opacity observations) greater than the thresholds of condition 5.2b, if they were not already submitted.

5.3 For Emission Units 500, 501, 503, 504 and 505 monitor, record and report in accordance with condition 3.3 and 3.5.

[State PM mr&r, Construction Permit No. AQ0417CPT05, Revisions 1, Condition VIII.D.3 & VIII.D.5]

5.4 For Emission Unit 507, monitor, record and report in accordance with condition 3.4 and 3.5.

[State PM mr&r, Construction Permit No. AQ0417CPT05, Revision 1, Condition VIII.D.4 & VIII.D.5]

6. Sulfur Compound Emissions. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from Emission Units 419, 420, 421, 500, 501, 503 through 505 and 507 to exceed 500 ppm averaged over three hours.

[18 AAC 50.346(c), 5/3/02; 18 AAC 50.055(c), 1/18/97; and 18 AAC 50.350(d)(1)(C), 6/21/98]

6.1 Monitoring and Recording.

[State Sulfur Compound monitoring and recording, Construction Permit No. AQ0417CPT05, Revision 1, Condition VIII.D.6

a. Measure and record the H_2S content of the fuel gas in accordance with condition 29 or 30.

b. Measure and record the fuel sulfur content of distillate fuel in accordance with sulfur measurement methods incorporated by reference within ASTM D 196 no less than once a month. As an alternative, the Permittee may attach a vendor certification documenting the fuel sulfur content of each fuel delivery to Badami.

6.2 List in the operating report under condition 77 the:

[State Sulfur Compound reporting, Construction Permit No. AQ0417CPT05, Revision 1, Condition VIII.E.2]
[BACT reporting, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.C.3]

a. monthly average fuel gas H_2S content[3]; and

b. analytical results of distillate fuel sulfur content or vendor certification required by condition 6.1b.

6.3 If a load of fuel gas contains greater than 4,000 ppmv H_2S, the Permittee shall calculate SO_2 emissions in ppm using Section 13.

[18 AAC 50.346(c) & 350(g) - (i), 5/03/02]

6.4 If a load of distillate fuel contains greater than 0.75 percent sulfur by weight, the Permittee shall calculate SO_2 emissions in ppm using either Section 13 or Method 19 of 40 C.F.R. 60, Appendix A-7, adopted by reference in 18 AAC 50.040(a).

[18 AAC 50.346(c) & 350(g) - (i), 5/03/02]

6.5 If SO_2 emissions calculated under condition 6.3 or 6.4 exceed 500 ppm, the Permittee shall report under condition 75. When reporting under this condition, include the calculation under Section 13 or Method 19, 40 C.F.R. 60, Appendix A-7.

[18 AAC 50.346(c) & 350(g) - (i), 5/03/02]

Incinerator Subject to State Emission Standards, Emission Unit 422 and 502

7. Incinerator Visible Emissions. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, through the exhaust of Emission Unit 422 and 502 to reduce visibility by any of the following:

a. more than 20 percent for a total of more than three minutes in any one hour[4];

[18 AAC 50.050(a)(2), 1/18/97]

[3] Note that condition 30.4 requires this reporting for Units 500 and 501.
[4] See Footnote 1.

b. more than 20 percent averaged over any six consecutive minutes[5].

[18 AAC 50.050(a), 5/3/02]
[State VE Standard for Incinerators, Construction Permit No. AQ0417CPT05, Revision 1, Condition VII.A]

7.1 No less than once each calendar year and upon Department request, the Permittee shall conduct a Method 9 visible emission observation on the incinerator exhaust for Emission Unit 422 if the emission unit operates during the calendar year to ascertain compliance with 18 AAC 50.050(a)(2). The Permittee shall attach visible emission observation results to the operating report as required by condition 77.

[State VE mr&r for Incinerators, Construction Permit No. AQ0417CPT05, Revision 1, Condition VII.B]

7.2 The Permittee shall certify in each operating report under condition 77, whether Emission Unit 502 fired only on propane or fuel gas.

[State VE mr&r for Incinerators, Construction Permit No. AQ0417CPT05, Revision 1, Condition VII.C]

Operating Procedures. Load Management, and Monitoring

8. Operating Procedures. The Permittee shall:

8.1 Develop and implement standard operating and maintenance procedures for each of Emission Units 417 through 421, 500 through 505, 507 and 508, then keep a copy of the procedures available at a location within the stationary source that is readily accessible to operators of the equipment, and to authorized representatives of the Department.

[BACT mr&r, Construction Permit No. AQ417CPT05, Revision 1, Condition IV.B]

8.2 Install, maintain, and operate in accordance with standard operating procedures, fuel-burning equipment, process equipment, emission control devices and testing equipment and monitoring equipment to provide an optimum control of air pollutant emissions during all operating periods.

[BACT mr&r, Construction Permit No. AQ417CPT05, Revision 1, Condition IV.B]

8.3 Develop and provide training at Badami to orient each stationary source operator regarding the terms, conditions, and obligations of this operating permit, and maintain a log of the time, place, and attendees for each training session and a copy of training material on file at the stationary source.

[BACT mr&r, Construction Permit No. AQ417CPT05, Revision 1, Condition IV.C]

9. Load Management. The Permittee shall

9.1 Develop and implement within 60 days after the effective date of Construction Permit No. AQ0417CPT05, Revision 1, a load management plan for Badami power generating units under the possible stationary source operational modes (e.g. normal operations, R warm shutdown, and LT warm shutdown) that includes:

[BACT mr&r, Construction Permit No. AQ417CPT05, Revision 1, Condition IV.D]

[5] See Footnote 2.

a. load management procedures during the stationary source's various operational modes to optimize load and CO emission performance of Emission Units 500 and 501, and minimize load bank use;

b. procedures to control, minimize and avoid load swings during the various operational modes of the stationary source;

c. procedures to control, minimize and avoid load swings during periods when the drill rig is on highline power operations;

d. procedures to optimize operation of the turbines in SoLoNOx mode under Arctic operation conditions; and

e. a load management training/education program for the Badami operators.

9.2 Submit two copies of the load management plan as required in condition 9.1 to the Department's Fairbanks address as listed in condition 72, and submit one copy of the plan to the Department's Air Permit Construction Team, 410 Willoughby Ave., Suite 303, Juneau, AK 99801.

[BACT mr&r, Construction Permit No. AQ417CPT05, Revision 1, Condition IV.E]

10. Unit Operating Mode Requirements. The Permittee shall not operate Emission Unit 500 and/or 501 in standby, redundant operation, or idle running, except during emergencies, source testing, emission unit start up, shut downs, maintenance, or load transfer.

[BACT mr&r, Construction Permit No. AQ417CPT05, Revision 1, Condition IV.F]

11. Operating Hours. The Permittee shall:

11.1 Monitor the time and date of the first start up[6] of Emission Units 500 and 501.

[BACT mr&r, Construction Permit No. AQ417CPT05, Revision 1, Condition IV.G.1]

11.2 Monitor the hours of operation for Emission Units 420 and 421, as required in condition 16.3a.

[BACT mr&r, Construction Permit No. AQ417CPT05, Revision 1, Condition IV.G.2]

11.3 For Emission Units 500 and 501:

[BACT mr&r, Construction Permit No. AQ417CPT05, Revision 1, Condition IV.G.3]

a. Monitor the hours of operation, stationary source operational mode (normal operations, R warm shutdown, LT warm shutdown), and whether the Solar SoLoNOx emission controls are activated or not, as required in conditions 19.1c(i)(A), 19.1c(ii), and 19.1c(i)(C), respectively. Include the operating modes of the units (e.g. normal, standby, redundant operation, or idle running).

[6] In this condition, "first start up" means the first time either unit is started after August 20, 2005 (the effective date of Permit No. AQ0417CPT05, Revision 1).

b. Record hourly values of the load bank load in kW, based upon data kept in a written log noting date, time, and "before" and "after" settings of the load bank made

(i) at each instance when the load bank load is adjusted; and

(ii) twice daily coincident with physical inspections of the load bank, whenever Emission Unit 500 and/or 501 is operating.

c. For condition 11.3b, specify, with the load bank load, under which operational mode the stationary source is operated (normal operations, R warm shutdown, LT warm shutdown).

11.4 Report in the operating report as required by condition 77, all information as required in conditions 11.1 through 11.3.

[Construction Permit No. AQ417CPT05, Revision 1, Condition IV.G.4]

Ambient Air Quality Standards and Increments, Owner Requested Limits

12. Miscellaneous Provisions. Flare fuel gas quantities during the routine or non-routine maintenance activities and other planned events. The Permittee shall flare produced gas quantities no greater than 152 MMscf of fuel gas during any 12 consecutive month period, at a rate of no greater than 20 MMscf per day, excluding emergencies.

[Ambient Air Quality Protection, Construction Permit No. AQ417CPT05, Revision 1, Condition V.A]

13. Air Quality Boundary. Establish and maintain the ambient boundaries used in the ambient impact analysis using the following procedures:

[Ambient Air Quality Protection, Construction Permit No. AQ417CPT05, Revision 1, Condition V.B]

13.1 Comply with the May 10, 2005 "CPF Pad Badami Unit - Public Access Control Plan", or a subsequent written version approved by the Department that contains at least the following elements:

a. a topographic map (or maps) that clearly shows the ambient boundaries, water bodies and Central Process Facility (CPF) pad;

b. ambient boundaries that are consistent with the land owner's authorization to preclude public access from the area within the boundaries;

c. defined methods of establishing and maintaining the boundary; and

d. the date of the revised Public Access Control Plan.

13.2 Do not revise the ambient air boundaries without Department approval. If requested by the Department, submit a revised ambient air impact analysis that demonstrates the emission activities will not cause or contribute to ambient air violations when using the proposed boundary.

13.3 Submit all proposed revisions of the Public Access Control Plan, including the ambient boundary, to the Department's Juneau and Fairbanks Offices. Do not implement any change without written Department approval.

14. Fuel Sulfur Limits. The Permittee shall:

[Ambient Air Quality Protection, Construction Permit No. AQ417CPT05, Revision 1, Condition V.C]

14.1 operate Emission Units 500, 501,502, 503, 504, 505 and 507 using fuel gas with an H_2S content not to exceed 250 ppmv; and

14.2 operate Emission Units 419, 420, and 421 using distillate fuel with a fuel sulfur content not to exceed 0.15 wt%S, except for intermittently used oil field support equipment.[7]

15. Liquid Fuel Volume Limit. The Permittee shall:

[Ambient Air Quality Protection, Construction Permit No. AQ417CPT05, Revision 1, Condition V.D]

15.1 In Emission Units 420 and 421, burn a combined total of no more than 800,000 gallons of liquid fuel during any 12 consecutive month period.

15.2 In all drill rig emission units burn a combined total of no more than 9,000 gallons per day and 950,000 gallons of liquid fuel during any 12 consecutive month period.

16. Monitoring and Recording. The Permittee shall:

16.1 Monitor and record fuel sulfur in accordance with condition 6.1.

[Ambient Air Quality Protection, Construction Permit No. AQ417CPT05, Revision 1, Condition V.E.1]

16.2 Record the date and duration during which gas flaring occurs, and the quantity of gas flared.

[Ambient Air Quality Protection, Construction Permit No. AQ417CPT05, Revision 1, Condition V.E.2]

16.3 For Emission Units 420 and 421, install and operate for each unit a dedicated continuous engine hour monitoring system, and a dedicated fuel meter accurate to less than five percent error.

[Ambient Air Quality Protection, Construction Permit No. AQ417CPT05, Revision 1, Condition V.E.3]

a. Monitor and record the daily hours of engine operation and identify the stationary source operation mode (e.g. normal operation, R warm shutdown, LT warm shutdown).

b. Monitor and record monthly fuel consumption for each unit, calculate and record the 12 consecutive month combined fuel consumption.

[7] This permit does not impose fuel sulfur restrictions in intermittently used oilfield equipment. The Department has instead established off-permit sulfur targets for these units in Policy and Procedure Number 04.02.105 (effective October 8, 2004).

c. If the fuel meter for Emission Unit 420 and 421 is out of service, estimate the gallons of fuel consumed for the emission units using the hours of operations recorded in condition 16.3a, assuming the 100 percent load fuel consumption rate in gallons per hour for the unit for any period during which the unit was operating. The fuel consumption rate shall be the design fuel consumption of 84.5 gallons per hour.

16.4 Monitor and record for each day, the quantity of the fuel combusted in drill rig emission units, combined. Calculate and record the 12 consecutive month total fuel consumption.

[Ambient Air Quality Protection, Construction Permit No. AQ417CPT05, Revision 1, Condition V.E.4]

17. Reporting. The Permittee shall report in the operating report required by condition 77:

[Ambient Air Quality Protection, Construction Permit No. AQ417CPT05, Revision 1, Condition V.F]

17.1 the fuel sulfur test results, or copies of vendor certifications in accordance with condition 6.2;

17.2 the duration of gas flaring and the total quantity of gas flared; describe or document whether the flaring incident is considered an emergency operation, routine or non-routine maintenance operation, or other planned event;

17.3 for Emission Units 420 and 421:

a. the monthly and 12 consecutive month total fuel consumption, as required by condition 16.3b; and

b. the monthly and 12 consecutive month hourly operation combined as required by condition 16.3a; and

17.4 for the drill rig report, for each day, monthly, and 12 consecutive month fuel consumption for all drill rig emission units, combined.

Emission Units Subject to BACT

18. BACT Limits.

18.1 **NOx Limits.** NOx BACT for fuel burning equipment at Badami is no post-combustion emission controls with good operational practices, and as follows.

[NOx BACT Limit, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.A.1]

a. The Permittee shall install and operate:

(i) Emission Units 500 and 501 with dry low NOx combustion technology (SoloNOx);

(ii) Emission Units 420 and 421 with variable-step fuel injection timing retard (FITR) as incorporated by the manufacturer;

(iii) Emission Unit 503 with low NOx burners/flue gas recirculation; and

(iv) Emission Units 504 and 505 with conventional burner technology.

b. The Permittee shall not allow emissions from:

(i) Emission Units 500 and 501 to exceed 28.4 lb NOx/hr for operation under all conditions, and shall not exceed 85 ppmv corrected to 15 percent oxygen in SoloNOx mode and at ambient temperatures above zero degrees Fahrenheit (°F);

(ii) Emission Unit 503 to exceed 0.095 lb NOx/MMBtu;

(iii) Emission Unit 504 to exceed 0.12 lb NOx/MMBtu; and

(iv) Emission Unit 505 to exceed 0.08 lb NOx/MMBtu.

18.2 **CO BACT.** CO BACT for fuel burning equipment at Badami is no post-combustion emission control with good operational practices. The Permittee shall not allow emissions from:

[CO BACT Limit, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.A.2]

a. Emission Units 500 and 501 to exceed 50 ppmv corrected to 15 percent oxygen when operating at 100 percent load in SoloNOx mode at ambient temperatures above 0°F, 14 lb/hr when operating in SoloNOx mode and at ambient temperatures above 0°F, and 385 lb/hr for operation under all other conditions;

b. Emission Unit 503 to exceed 0.10 lb CO/MMBtu;

c. Emission Unit 504 to exceed 0.12 lb CO/MMBtu; and

d. Emission Unit 505 to exceed 0.15 lb CO/MMBtu.

18.3 **CO BACT.** Limit CO emissions from Emission Units 500 and 501 to no greater than 336 tons per 12-consecutive month period. Monitor and record according condition 19.1c, report according to condition 20.2.

[CO BACT Limit, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.A.3]

18.4 **SO_2 BACT.** SO_2 BACT for fuel burning equipment at Badami is use of low sulfur fuel with no post-combustion controls. The Permittee shall comply with the following fuel sulfur limits as representative of BACT:

[SO_2 BACT Limit, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.A.4]

a. H_2S content of natural gas fuel shall not exceed 250 ppmv; and

b. sulfur content fuel oil shall not exceed 0.15 wt%S.

18.5 VOC BACT for fuel burning equipment and fuel storage tanks, and water treatment processes at Badami is no controls with good operation practices. BACT for water injection tanks and slop tank is a sealed system design. The flare BACT determination is smokeless tip design. No emission limits are imposed as representing BACT.

[VOC BACT Limit, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.A.5]

18.6 PM less than 10 microns control technology (PM-10) BACT for fuel burning equipment at Badami is no controls with good operation practices. The Permittee shall comply with BACT visible emission limits (surrogate for PM-10) listed in conditions 3.c, 3.d, and 3.e.

[PM-10 BACT Limit, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.A.6]

19. Monitoring and Recordkeeping.

19.1 NOx and CO--Permittee shall monitor and record compliance as follows:

a. For Emission Units 420 and 421 monitor, record and report site specific NOx emission factor as follows:

[18 AAC 50.350(g) – (i), 1/18/97]

(i) Conduct a NOx emission source test on either of Emission Units 420 and 421. The source test shall include a Method 19 test or a test following any other protocol approved by the Department on each engine, or on one of a group of engines, within the 5 years of the permit term. The emission source test shall represent no less than 4 loads of the tested unit, including the minimum, maximum, and two mid-range load points. Conduct the test in accordance with the procedures as set out in Section 8. Monitor and record the unit's fuel consumption during the emission source test.

(ii) Develop a fuel-specific NOx emission factor (lb/gallon) for each load using emission rate methodology as is set out in 40 C.F.R. 60 Appendix A, Method 19. Upon Department approval, use site and fuel-specific emissions factors to calculate the 12 consecutive month period emissions and related fuel consumption for each unit. Source testing may be waived if the Department determines that previous source tests are representative of current operating conditions, or if the units have been tested within the previous two years.

b. For Emission Units 420 and 421, evaluate and certify engine fuel injection/FITR settings no less once each calendar year by verifying or adjusting the fuel injection/FITR settings according the engine manufacturer procedures.

[NOx & CO BACT monitoring and recordkeeping, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.B.1.a]

c. For Emission Units 500 and 501:

[NOx & CO BACT monitoring and recordkeeping, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.B.1.b]

(i) Using the existing computer-based control system, monitor and record:

(A) the daily operating time (record time in minutes or decimal portions of an hour);

(B) the hourly average percentage natural gas producer (% NGP) speed (use six minute intervals to calculate the average % NGP speed for each hour of operation); and

(C) time in and out of SoLoNOx operation for each unit.

(ii) For each time period that the units are operating, monitor and record the stationary source operational mode (as defined in condition 31).

(iii) Calculate and record the hourly NOx and CO emissions for Emission Units 500 and 501 by using the hourly average percentage NGP speed (as determined in condition 19.1c(i)(B)) to determine the NOx and CO emission factors listed in Table 2. Multiply the NOx and CO emission factor by the hours of operation as determined in condition 19.1c(i)(A).

Table 2 - Badami Restart Solar Gas Turbine NO_X and CO Emission Factors

Emission Unit	Description	Gas Turbine Load Condition (% NGP)	CO emission factor
500 -501	Solar Mars 90 SoloNOx gas turbine	% NGP speed average hourly value	
	In SoloNOx mode		**4.7 lb/hr**
	Out SoloNOx mode	% NGP ≥ 94	4.7 lb/hr
		% NGP ≥ 90 and < 94	202.0 lb/hr
		% NGP ≥ 87 and < 90	236.0 lb/hr
		% NGP ≥ 84 and < 87	261.9 lb/hr
		% NGP < 84	385 lb/hr
			NOx emission factor
	In and Out SoloNOx mode	All % NGP	28.4 lb/hr

(iv) On calendar month basis, calculate and record the total monthly and 12-consecutive month period NOx and CO emission rates for each Emission Unit 500 and 501.

(v) On a calendar month basis, calculate and record the total and 12 consecutive month period NOx and CO emission rates for Emission Units 500 and 501 combined.

19.2 SO_2--Conduct fuel sulfur monitoring and recordkeeping in accordance with condition 6.1.

[SO_2 BACT monitoring and recordkeeping, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.B.2]

19.3 PM—For fuel gas fired units (Units 500, 501, 503, 504, and 505) demonstrate compliance as required under condition 3.3. For distillate fuel fired units (Emission Units 420 and 421), conduct visible emission surveillance monitoring in accordance with condition 3.2.

[PM BACT monitoring, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.B.3]

20. Reporting. The Permittee shall:

[BACT reporting, Construction Permit No. AQ0417CPT05, Revision 1, Condition IX.C]

20.1 For Emission Units 420 and 421, report fuel injection/FITR settings and the manufacturer recommended procedures and settings.

20.2 For Emission Unit 500 and 501 report:

a. the monthly and 12 consecutive month hours of operation for Emission Units 500 and 501 each, as required by condition 19.1c(i)(A); and

b. the monthly and 12 consecutive month total NOx and CO emissions for Emission Units 500 and 501, each and the combined total as required in condition 19.1c(ii).

20.3 SO_2--Report fuel sulfur content as required by under condition 6.2.

20.4 PM-10--Report the results of the visible emission surveillance reports as required by condition 4.3a(i).

Federal New Source Performance Standards (NSPS), Subpart A

21. NSPS Subpart A, Startup, Shutdown, & Malfunction Requirements. The Permittee shall maintain records for Emission Units 500, 501, 503 and 504 in accordance with 40 C.F.R. 60.7(b).

[18 AAC 50.350(i), 5/3/02 & 18 AAC 50.040(a)(1), 8/15/02]
[40 C.F.R. 60.7(c) and (d), Subpart A, 7/1/01]

22. NSPS Subpart A, Performance (Source) Tests. At such times as may be required by the NSPS Administrator, the Permittee shall conduct source tests for Emission Units 500, 501, 503 and 504 according to Section 8 of this permit and 40 C.F.R. 60.8 and shall provide the Department and EPA with a written report of the results of the source test.

[18 AAC 50.350(i), 5/3/02 & 50.040(a)(1), 8/15/02]
[40 C.F.R. 60.8(a) - (e), Subpart A, 7/1/01]

23. NSPS Subpart A, Good Air Pollution Control Practice. The Permittee shall maintain and operate Emission Units 500, 501, 503 and 504 in accordance with 40 C.F.R. 60.11(d).

[18 AAC 50.040(a)(1), 8/15/02]
[40 C.F.R. 60.11(d), Subpart A, 7/1/01]

24. NSPS Subpart A, Credible Evidence. The credible evidence rule of 40 C.F.R. 60.11(g) applies to Emission Units 500, 501, 503 and 504.

[18 AAC 50.040(a)(1); 8/15/02]

[40 C.F.R. 60.11(g), Subpart A, 7/1/01]

25. NSPS Subpart A, Concealment of Emissions. The Permittee shall not conceal emissions from Emission Units 500, 501, 503 and 504 as provided in 40 C.F.R. 60.12. Monitoring shall consist of an annual certification the Permittee does not conceal emissions.

[18 AAC 50.040(a)(1), 8/15/02]
[40 C.F.R. 60.12, Subpart A, 7/1/01]

Boilers/Heaters Subject to NSPS Subpart Dc, Emission Units 503 and 504

26. The Permittee shall maintain a record of the amount of fuel combusted on a quarterly basis for Emission Unit 503 and 504.

18 AAC 50.040(a)(2)(V), 10/04/05]
[40 C.F.R. 60.48(c)(g), Subpart Dc, 7/1/99]

Turbines Subject to NSPS Subpart GG, Emission Units 500 and 501

27. NSPS Subpart GG NOx Standard. The Permittee shall not allow the corrected exhaust gas concentration of NO_X from Emission Units 500 and 501 to exceed the standard found in 40 C.F.R. 60.332(a)(2). Based on the provisions of this standard, the Permittee shall not allow the exhaust gas concentration of NO_X from Emission Units 500 and 501 to exceed 191 ppmv at 15 percent O_2 dry exhaust basis, at ISO conditions.

[18 AAC 50.040(a)(2)(V), 8/15/02]
[40 C.F.R. 60.332(a)(2), Subpart GG, 7/1/03]
[40 C.F.R. 60.333(b), FR Vol. 69, No. 130, p. 41360, 7/8/04]

27.1 **Monitoring.**

[18 AAC 50.350(g) - (i), 5/3/02, 50.220(a) - (c), 1/18/97, & 50.040(a)(1), 8/15/02]

a. **Waivers**. The Permittee shall provide to the Department a written copy of any U.S. EPA granted waiver of the federal emission standards, recordkeeping, monitoring, performance testing, reporting requirements, or approved custom monitoring schedules upon request by the Department. The Permittee shall keep a copy of each U.S. EPA issued monitoring waiver or custom monitoring schedule on file.

b. **Periodic Testing.** For each turbine subject to condition 27, within 90 days after the cumulative total of 7,500 or more hours of operation; starting from the start up period in accordance with condition 32, the Permittee shall satisfy either condition 27.1b(i) or 27.1b(ii).

(i) For existing turbines not represented by emission data described in condition 27.1b(ii), the Permittee shall conduct a NOx, CO and O_2 source test under 40 C.F.R. 60, Appendix A-7, Method 20 or following another protocol approved by the Department:

(A) for each turbine; or

(B) on one turbine to represent a group of turbines, if allowed to do so under condition 27.1c.

(ii) If a test following 40 C.F.R. 60, Appendix A-7, Method 20 or following another protocol approved by the Department has been conducted on a turbine since two years before the issuance date of this permit, and the test shows that emissions at maximum load are less than 90 percent of the applicable emission limit(s) of condition 27, then:

(A) the Permittee may use those test results to represent emissions from that turbine or for a group of turbines if allowed under condition 27.1c until the testing of condition 27.1b(ii)(B) is performed; and

(B) the Permittee shall conduct a Method 20 test or a test following any other protocol approved by the Department on each turbine, or on one of a group of turbines as allowed under condition 27.1c, within the five years of the permit term.

c. **Substituting Test Data.** The Permittee may use a test under conditions 27.1b performed on only one of a group of turbines to satisfy the requirements of those conditions for the other turbines in the group if:

(i) the Permittee demonstrates that test results are less than 90 percent of the applicable emission limit(s) of condition 27, and are projected under condition 27.1d to be less than 90 percent of the limit at maximum load;

(ii) for any source test done after the issuance date of this permit, the Permittee identifies in a source test plan under condition 67:

(A) the turbine to be tested;

(B) the other turbines in the group that are to be represented by the test; and

(C) why the turbine to be tested is representative, including that each turbine in the group:

(1) is located at a stationary source operated and maintained by the Permittee;

(2) is the same make and model and has identical fuel nozzles and combustor;

(3) uses the same fuel type; and

(iii) for any source test done before the issuance date of this permit and used under condition 27.1b(ii), the Permittee

(A) demonstrates why the test results are representative of emissions from the entire group of turbines, including that each turbine in the group:

(1) is located at a stationary source operated and maintained by the Permittee;

(2) is the same make and model and has identical emission controls, combustor and gas turbine controls;

(3) uses the same fuel type; and

(B) submits all results of source testing that has been performed on each turbine in the group, regardless of the date of the test, and certifies that the submittal is complete, consistent with 18 AAC 50.205.

d. **Load**.

(i) The Permittee shall conduct all tests under condition 27.1b in accordance with 40 C.F.R. 60.335(c)(3), except as otherwise approved in writing by the Department, or by EPA if the circumstances at the time of the EPA approval are still valid. For the highest load condition, if it is not possible to operate the turbine during the test at maximum load, the Permittee will test the turbine when operating at the highest load achievable by the turbine under the ambient and stationary source operating conditions in effect at the time of the test.

(ii) The Permittee shall demonstrate in the source test plan for any test performed after the issue date of this permit whether the test is scheduled when maximum NO_X emissions are expected.

(iii) If the highest operating rate tested is less than the maximum load of the tested turbine or another turbine represented by the test data:

(A) for each such turbine the Permittee shall provide to the Department as an attachment to the source test report:

(1) additional test information from the manufacturer or from previous testing of units in the group of turbines; if using previous testing of the group of turbines, the information must include all available test data for the turbines in the group; and

(2) a demonstration based on the additional test information that projects the test results from condition 27.1b to predict the highest load at which emissions will comply with the applicable limit(s) of condition 27;

(B) the Permittee shall not operate any turbine represented by the test data at loads for which the Permittee's demonstration predicts that emissions will exceed the applicable limit(s) in condition 27;

(C) the Permittee shall comply with a written finding prepared by the Department that:

(1) the information is inadequate for the Department to reasonably conclude that compliance is assured at any load greater than the test load, and that the Permittee must not exceed the test load;

(2) the highest load at which the information is adequate for the Department to reasonably conclude that compliance assured is less than the maximum load, and the Permittee must not exceed the highest load at which compliance is predicted; or

(3) the Permittee must retest during a period of greater expected demand on the turbine; and

(D) the Permittee may revise a load limit by submitting results of a more recent approved test done at a higher load, and, if necessary, the accompanying information and demonstration described in condition 27.1d(iii)(A); the new limit is subject to any new Department finding under condition 27.1d(iii)(C), and;

(iv) In order to perform an emission test, the Permittee may operate a turbine at a higher load than that prescribed by condition 27.1d(iii).

(v) For the purposes of conditions 27.1 through 27.3, maximum load means the hourly average load that is the smallest of:

(A) 100 percent of manufacturer's design capacity of the gas turbine at ISO standard day conditions;

(B) the highest load allowed by an enforceable condition that applies to the turbine; or

(C) the highest load possible considering permanent physical restraints on the turbine or the equipment which it powers.

27.2 **Recordkeeping**. The Permittee shall comply with the following for each turbine for which a demonstration under condition 27.1d(iii) does not show compliance with the applicable limit(s) of condition 27 at maximum load.

[18 AAC 50.350(g) - (i), 5/3/02, 50.220(a) - (c), 1/18/97, & 50.040(a)(1), 8/15/02]

a. The Permittee shall keep records of:

(i) load; or

(ii) as approved by the Department, surrogate measurements for load and the method for calculating load from those measurements.

b. Records in condition 27.2a shall be hourly or otherwise as approved by the Department.

c. Within one month after submitting a demonstration under condition 27.1d(iii)(A)(2) that predicts that the highest load at which emissions will comply is less than maximum load, or within one month of a Department finding under condition 27.1d(iii)(C), whichever is earlier, the Permittee shall propose to the Department how they will measure load or load surrogates, and shall propose and comply with a schedule for installing any necessary equipment and beginning monitoring. The Permittee shall comply with any subsequent Department direction on the load monitoring methods, equipment, or schedule.

27.3 **Reporting**.

[18 AAC 50.350(g) - (i), 5/3/02, 50.220(a) - (c), 1/18/97, & 50.040(a)(1), 8/15/02]

a. In each operating report under condition 77, the Permittee shall list for each turbine tested or represented by testing at less than maximum load and for which the Permittee must limit load under condition 27.1d(iii):

(i) the load limit;

(ii) the turbine identification; and

(iii) the highest load recorded under condition 27.2 during the period covered by the operating report.

b. The Permittee shall report under condition 75 if:

(i) a test result exceeds the emission standard;

(ii) testing is required under condition 27.1b but not performed; or

(iii) the turbine was operated at a load exceeding that allowed by conditions 27.1d(iii)(B) and 27.1d(iii)(C); exceeding a load limit is deemed a single

violation rather than a multiple violation of both monitoring and the underlying emission limit.

28. NSPS Subpart GG Sulfur Standard. The Permittee shall not allow the sulfur content for the fuel burned in Emission Units 500 and 501 to exceed 0.8 percent by weight (8,000 ppm by weight (ppmw). Monitor, record and report as described in condition 29 (40 C.F.R. 60.334(h)), or condition 30 (Alternative Monitoring Plan approved by EPA on November 12, 1998, as modified by the department).

[18 AAC 50.040(a)(2)(V), 8/15/02]
[40 C.F.R. 60.333(b), FR Vol. 69, No. 130, p. 41360, 7/8/04]

29. NSPS Subpart GG Sulfur Monitoring.

29.1 The owner or operator [Permittee] of any stationary gas turbine subject to the provisions of Subpart GG:

[40 C.F.R. 60.334(h), FR Vol. 69, No. 130, p. 41361, 7/8/04]

a. Shall monitor the total sulfur content of the fuel being fired in the turbine, except as provided in paragraph (h)(3) [condition 29.1b] of 40 C.F.R. 60.334. The sulfur content of the fuel must be determined using total sulfur methods described in 40 C.F.R. 60.335(b)(10) [condition 29.4]. Alternatively, if the total sulfur content of the gaseous fuel during the most recent performance test was less than 0.4 weight percent (4000 ppmw), ASTM D4084-82, 94, D5504-01, D6228-98, or Gas Processors Association Standard 2377-86 (all of which are incorporated by reference – see 40 C.F.R. 60.17), which measure the major sulfur compounds may be used.

[40 C.F.R. 60.334(h)(1), FR Vol. 69, No. 130, p. 41361, 7/8/04]

b. Notwithstanding the provisions of paragraph (h)(1) of 40 C.F.R. 60.334 [condition 29.1a], the owner or operator [Permittee] may elect not to monitor the total sulfur content of the gaseous fuel combusted in the turbine, if the gaseous fuel is demonstrated to meet the definition of natural gas in 40 C.F.R. 60.331(u), regardless of whether an existing custom schedule approved by the administrator for Subpart GG requires such monitoring. The owner or operator [Permittee] shall use one of the following sources of information to make the required demonstration:

[40 C.F.R. 60.334(h)(3), FR Vol. 69, No. 130, p. 41361, 7/8/04]

(i) The gas quality characteristics in a current, valid purchase contract, tariff sheet, or transportation contract for the gaseous fuel, specifying that the maximum total sulfur content of the fuel is 20 grains/100 scf or less.

[40 C.F.R. 60.334(h)(3)(i), FR Vol. 69, No. 130, p. 41361, 7/8/04]

(ii) Representative fuel sampling data that show that the sulfur content of the gaseous fuel does not exceed 20 grains/100 scf. At a minimum, the amount of fuel sampling data specified in section 2.3.1.4 or 2.3.2.4 of appendix D to part 75 of C.F.R. Title 40 is required.

[40 C.F.R. 60.334(h)(3)(ii), FR Vol. 69, No. 130, p. 41361, 7/8/04]

29.2 The frequency of determining the sulfur content of the fuel shall be as follows:

[40 C.F.R. 60.334(i), FR Vol. 69, No. 130, p. 41361, 7/8/04]

a. **Gaseous Fuel.** For owners and operators that elect not to demonstrate sulfur content using options in (h)(3) of 40 C.F.R. 60.334 [condition 29.1b], and for which the fuel is supplied without intermediate bulk storage, the sulfur content value of the gaseous shall be determined and recorded once per unit operating day.

[40 C.F.R. 60.334(i)(2) FR Vol. 69, No. 130, p. 41361, 7/8/04]

(i) **Custom Schedules**. Notwithstanding the requirements of 40 C.F.R. 60.334(i)(2) [condition 29.2a] operators [Permittees] or fuel vendors may develop another custom schedules for determination of the total sulfur content of gaseous fuels, based on the design and operation of the affected facility and the characteristics of the fuel supply. Except as provided in paragraphs (i)(3)(i) and (i)(3)(ii) of 40 C.F.R. 60.334 [conditions 29.2a(ii) and 29.2a(iii)], custom schedules shall be substantiated with data and shall be approved by the Administrator before they can be used to comply with the standard in 40 C.F.R. 60.333 [condition 28].

[40 C.F.R. 60.334(i)(3), FR Vol. 69, No. 130, p. 41361, 7/8/04]

(ii) The two custom sulfur monitoring schedules set forth in paragraphs (i)(3)(i)(A) through (D) (including (C)(1) through (3)) [not included in the permit] and in paragraph (i)(3)(ii) of 40 C.F.R. 60.334 [condition 29.2a(iii)] are acceptable without prior Administrator approval.

[40 C.F.R. 60.334(i)(3)(i), FR Vol. 69, No. 130, p. 41361, 7/8/04]

(iii) The owner or operator [Permittee] may use the data collected from the 720-hour sulfur sampling demonstration described in section 2.3.6 of appendix D to part 75 of C.F.R. Title 40 to determine a custom sulfur sampling schedule, as described in 40 C.F.R. 60.334(i)(3)(ii)(A) through (D) [not included in the permit].

[40 C.F.R. 60.334(i)(3)(ii), FR Vol. 69, No. 130, p. 41361, 7/8/04]

29.3 For each affected unit required to continuously monitor parameters or emissions, or to periodically determine the fuel sulfur content under Subpart GG, the owner or operator [Permittee] shall submit reports of excess emissions and monitor downtime in accordance with 40 C.F.R. 60.7(c) [condition 21]. Excess emissions shall be reported for all periods of unit operation, including startup, shutdown and malfunction. For the purpose of reports required under 40 C.F.R. 60.7(c) [condition 21], periods of excess emissions and monitor downtime that shall be reported are [for turbines required to monitor under 40 C.F.R. 60.334(h) - condition 29] in 40 C.F.R. 60.334(j)(2)(i) through (iii). The Permittee shall submit reports required under 40 C.F.R. 60.7(c) [condition 21] in accordance with 40 C.F.R. 60.334(j)(5).

[40 C.F.R. 60.334(j), FR Vol. 69, No. 130, p. 41361, 7/8/04]

29.4 The owner or operator [Permittee] shall meet the performance test requirements of 40 C.F.R. 60.8 [condition 22] as follows:

[40 C.F.R. 60.335(b), FR Vol. 69, No. 130, p. 41363, 7/8/04]

a. if the owner or operator is required under 40 C.F.R. 60.334(i)(3) [condition 29.2a(i)] to periodically determine the sulfur content of the fuel combusted in the turbine, a minimum of three fuel samples shall be collected during the performance test. Analyze the samples for the total sulfur content of the fuel as indicated in 40 C.F.R 60.335(b)(10)(ii) [condition 29.4b].

[40 C.F.R. 60.335(b)(10), FR Vol. 69, No. 130, p. 41364, 7/8/04]

b. For gaseous fuels, ASTM D1072-80, 90 (Reapproved 1994); D3246-81, 92, 96; D4468-85 (Reapproved 2000); or D6667-01 (all of which are incorporated by reference, see 40 C.F.R. 60.17). The applicable ranges of some ASTM methods mentioned above are not adequate to measure the levels of sulfur in some fuel gases. Dilution of samples before analysis (with verification of the dilution ratio) may be used, subject to the prior approval of the Administrator.

[40 C.F.R. 60.335(b)(10)(ii), FR Vol. 69, No. 130, p. 41364, 7/8/04]

30. Alternative Monitoring Plan (Sulfur).[8]

30.1 **Monitoring.** Determine compliance monthly with the gaseous fuel content standard in condition 28 as specified in 40 C.F.R. 60.334(h)(1) [condition 29.1a].

[Alternative Monitoring Plan, 11/12/98, as modified by the department under 18 AAC 50.350(g), 5/3/02]
[40 C.F.R. 60.334(h)(1), FR Vol. 69, No. 130, p. 41361, 7/8/04]
[40 C.F.R. 60.335(b)(10)(ii), FR Vol. 69, No. 130, p. 41364, 7/8/04]

30.2 **Recordkeeping.**

[Alternative Monitoring Plan, 11/12/98]

a. Maintain records of all sulfur monitoring data.

b. Maintain a record documenting the source of fuel gas. A substantial change in fuel gas quality shall be considered a change in fuel supply.

c. Maintain records of all turbine operation on all fuels other then fuel gas.

d. Maintain records on-site for a period of five years from the generation of such record.

30.3 **EPA Reporting.**

[Alternative Monitoring Plan, 11/12/98]

a. Report annually to the EPA the results of all sulfur monitoring required by condition 30.1.

[Alternative Monitoring Plan, 11/12/98, as modified by the department under 18 AAC 50.350(g), 5/3/02]

[8] Permittee may need an US EPA approval to substitute (intermittently under defined operation conditions) the Endicott fuel gas for Badami fuel gas.

b. Report any changes to the EPA in supplier or source of fuel within 60 days of such a change.

c. Report to the EPA use of any fuel other than fuel gas.

30.4 Include copies of the records required by condition 30.1 (including the results of the monthly monitoring) with the Operating Report required by condition 77.

[18 AAC 50.350(i), 5/3/02]

Section 5. Restart Project BACT Monitoring, Recordkeeping, and Reporting

General Conditions

31. Definitions of Operational Modes. The Badami Restart Project is limited to a maximum of 36 months after first start up of either Emission Unit 500 or 501 after the effective date of Construction Permit No. AQ0417CPT05, Revision 1. Stationary source operational modes are defined as follows:

[Construction Permit No. AQ0417CPT05, Revision 1, Condition X.A]

31.1 **Recharge (R) Warm Shut Down Mode.** Rwarm shut down mode is an operational mode that occurs during the re-start period described in condition 32. The R warm shut down period is characterized by limited operation of the stationary source emission units. This operational mode is to allow the oil reservoir to recharge.

31.2 **Long Term (LT) Warm Shut Down Mode.** LT warm shut down mode is an operational mode that occurs after the end of the restart period described in condition 32, or occurs during the restart period if the Permittee has discontinued plans to return to Normal Operations during that period. The LT warm shut down mode is characterized by limited operating of the emission units to maintain equipment integrity. During the LT warm shut down period the stationary source oil, gas and water production process is not active and the stationary source is dormant.

31.3 **Normal Operations.** Normal operations is the period that the stationary source is not in R warm shut down mode or LT warm shut down mode, as described in conditions 31.1 and 31.2.

32. Monitoring and Recordkeeping. The Permittee shall:

[Construction Permit No. AQ0417CPT05, Revision 1, Condition X.B]

32.1 record the date and time when the normal operations, R warm shut down and LT warm shut down, are started and terminated; and

32.2 calculate and record the 12 consecutive month period NOx and CO emission rate in accordance with conditions 19.1c(iv) and 19.1c(v).

33. Reporting. The Permittee shall list the date and time when normal operations, R warm shut down, and LT warm shut down as described in condition 31 are started and terminated in the operating report under condition 77.

[Construction Permit No. AQ0417CPT05, Revision 1, Condition X.C]

Operating Mode Consequences

34. The Permittee shall within 60 days after the 36 month period, as described in condition 32, submit to the Department a demonstration of load demand (power demand), consistent with the definition in condition 35, based on the stationary source operations during the 36 month period as set out above, including the period(s) that the stationary source is operated

under a R warm shut down. The demonstration must provide adequate information for determining if replacement or modification of Emission Units 500 and 501 is warranted. The demonstration shall include, but is not limited to:

[Construction Permit No. AQ0417CPT05, Revision 1, Condition XI.A]

34.1 detailed description of the stationary source operational modes, and related electric energy demands;

34.2 the intended usage of the electrical loads and their collective impact on the generators, including specification of lighting, electrical motor loads and possible electric load swings; and

34.3 if condition 36 is not met, include in the load demand demonstration detailed description(s), technical data, emission performance of the selected equipment as required in condition 37.

35. For purposes of the load demand demonstration, load demand is defined as the electrical power (in kW) that is required to operate the stationary source[9] under the various operational modes during the 36 month period *without* electric load demand from load banks, water brakes, pump flow controls, or other loads that have the single purpose to destroy energy in order to improve the CO emission performance of the fuel fired generators.

[Construction Permit No. AQ0417CPT05, Revision 1, Condition XI.B]

36. If results from the load demand demonstration, demonstrate that Emission Units 500 and 501 are capable of operating consistently in SoLoNOx[10] mode for 95 percent of the operating time, excluding startup, shut down, malfunction, maintenance, load transfer, source testing, and emergencies[11], without using artificial load demand equipment as indicated in condition 35 then the Permittee is not subject to condition 37. To demonstrate this capability, the Permittee must show that the 95 percent threshold has been met continuously during a substantial portion of the restart period that will be representative of future operation.

[Construction Permit No. AQ0417CPT05, Revision 1, Condition XI.C]

37. If the results from the load demonstration do not show that the provisions of condition 36 are met, then the Permittee shall submit to the Department within 45 days, after submittal of the load demand demonstration subject to condition 34, a construction permit application, except as provided in condition 37.2. The application shall include the request for authorization for replacement of the existing combustion turbine(s) or for installation of CO emission controls on the existing combustion turbine(s).

[Construction Permit No. AQ417CPT05, Revision 1, Condition XI.D]

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[9] "Load demand" is the "real power demand" to operate Badami, including support systems (e.g. light and power for workshops, workers housing, refrigerators, cookhouses, communications systems, laundry, etc.)

[10] "Emission Units 500 and 501 Solar Gas Turbines in SoLoNOx" means that the gas turbine NOx emission controls are activated.

[11] The Department considers 120 minutes (two hours) operation maximum during equipment startup, and shutdown of the gas turbines.

37.1 The Permittee shall after the load demand demonstration and after new permit issuance and within the time specified in that new permit:

a. install and operate power generation equipment that is properly rated, and capable of operating for the specific application with appropriate NOx and CO emission controls for the available load demand without using artificial load demand equipment[12] as indicated in condition 35; or

b. install post combustion CO controls; controls must be at least as stringent as:

(i) selective catalytic oxidation, with a destruction efficiency as determined per condition 39.2 on the existing emission units; and

(ii) BACT as demonstrated in condition 38.

37.2 If the stationary source does not operate in normal operations mode during the first 105 days after the 36 calendar month period, the Permittee shall submit to the Department a construction permit application as identified in condition 37 before resuming normal operations.

38. The Permittee shall provide within five months after the 36 month period a NOx, and CO BACT analysis for Emission Units 500 and 501, or their replacements. For any new BACT limits under this condition must be equal to or lower than the limits in conditions 18.1, 18.2, and 18.3 of this permit. The Permittee shall conduct the analyses according to EPA's "top down" approach in the proposed New Source Review Rule Revisions (EPA 1990). The BACT assessments shall include, but are not limited to:

[Construction Permit No. AQ0417CPT05, Revision 1, Condition XI.E]

38.1 cost estimates, cost proposal specific for Badami and actual cost data, cost indexed for the year that the analysis is provided;

38.2 the cost elements used in the BACT cost analysis must be accompanied with copies of the original Vendor quotes, including the scope of supply, services; and

38.3 the cost analysis to be performed according to the guidelines set out in "EPA Air Pollution Control Cost Manual" US EPA, latest edition.

39. CO BACT analysis for Emission Units 500 and 501 and replacement equipment shall include, but not be limited to, the following CO emission control technologies:

[Construction Permit No. AQ0417CPT05, Revision 1, Condition XI.F]

39.1 low NOx turbine, or other available NOx control technologies for the turbine suitable for Badami-specific operation conditions;

[12] This includes the use of a load leveling device to mitigate the stationary normal load swings in the operational load. The load leveling device is only used in specific operations where load swings are expected (e.g. start up large electro motors, electric block loads).

39.2 for the CO controls with catalytic controls include in the cost assessment the catalyst control strategies for 80, 85, and 90 percent long term control efficiency; and

39.3 cost analysis to include the vendor based data regarding operation, supervision and maintenance costs of the emission controls.

40. After receiving a complete BACT analysis under condition 38, and any additional information the Department needs to complete review, the Department will issue a BACT determination as follows.

[Construction Permit No. AQ0417CPT05, Revision 1, Condition XI.G]

40.1 If the results of the load demonstration show that the provisions of condition 36 are met, the Permittee shall operate in compliance with the new BACT determination within 15 months after the date the Department issues the final determination.

40.2 If the results of the load demonstration show that the provisions of condition 36 are *not* met, the Permittee shall operate in compliance with the new BACT determination consistent with condition 37.

LT Warm Shut Down Mode Consequences

41. The Permittee shall within 60 days after the 36 calendar months, after beginning the restart project as described in condition 31, submit to the Department a power generation demonstration that will provide the information necessary to determine if emission unit re-sizing, and output optimizing is necessary in the LT warm shut down mode. The demonstration must include a detailed study regarding the power generation during the LT warm shutdown mode. The demonstration will include but is not limited to the following elements:

[Construction Permit No. AQ0417CPT05, Revision 1, Condition XII.A]

41.1 A detailed description of the power demand during the LT warm shutdown, and the available fuels.

41.2 For each option as described in condition 41.5, the potential NOx, CO, PM-10, VOC, and SO_2 emissions and the emission performance under Badami-specific conditions (fuel, Arctic cold and load characteristics).

41.3 A demonstration of possible reduction of NOx, CO, PM-10 and VOC emissions for each of the options compared to power generation with the existing emission units during the LT warm shut down.

41.4 For the option described in condition 41.5a, the Permittee shall submit a cost analysis that includes the total cost of the conversion, based on the conversion parts costs of the new (converted parts) minus the replaced components remainder value.

41.5 Supply options for generating electric power during LT warm shut down operation to include:

a. converting one or both of the existing diesel-fired generators, Emission Units 420 and 421, to fuel gas firing or dual fuel (fuel gas and diesel) firing;

b. installing and operating new, appropriately sized generator(s) driven by a fuel gas-fired reciprocating engine(s);

c. installing a new, appropriately sized generator driven by a fuel gas-fired combustion turbine; or

d. installing some other, not yet identified, innovative technology such as a multiple micro-turbine driven generator set; fuel cell; sterling engine or wind-driven turbine generator.

42. The Permittee shall not operate existing Emission Units 500 and 501 (Solar Mars 90 turbines with SoLoNOx) for power generation during the LT warm shutdown mode, except as follows:

[Construction Permit No. AQ0417CPT05, Revision 1, Condition XII.B]

42.1 the Permittee may operate existing Emission Units 500 and 501 at any time in response to emergency conditions; and

42.2 during non-emergency conditions, the Permittee may operate existing Emission Units 500 and 501for no more than 60 hours during any 12 consecutive months period.

43. Monitoring and Recordkeeping. The Permittee shall monitor and record the monthly operating hours for Emission Units 500 and 501 as set out in condition 11.3a. Specify the reason for operating either of the emission units.

[Construction Permit No. AQ0417CPT05, Revision 1, Condition XII.C]

44. Reporting. The Permittee shall list in the operating report under condition 77:

[Construction Permit No. AQ0417CPT05, Revision 1, Condition XII.D]

44.1 the monthly and consecutive 12-month total hours;

44.2 as set out in condition 11.4, dates and times when normal operations, R warm shut down and LT warm shut down are started and stopped; and

44.3 reason for operating Emission Units 500 and 501 in the LT warm shut down mode during the period.

45. If the Permittee decides to terminate the LT warm shut down operations as described in condition 31.2 and start operations in modes described under conditions 31.1 and 31.3, before starting operations in modes described under conditions 31.1 and 31.3, the Permittee shall provide the demonstrations in accordance with conditions 34, 38, 39 and 40. The Permittee shall comply with 37 and 40.

[Construction Permit No. AQ0417CPT05, Revision 1, Condition XII.E]

Section 6. Insignificant Emission Units

This section contains the requirements that the Permittee identified under 18 AAC 50.335(q)(2) as applicable to insignificant emission units at Badami, and also specifies the testing, monitoring, recordkeeping and reporting for insignificant emission units that the Department finds necessary to ensure compliance with the applicable requirements. Insignificant emission units are not exempted from any air quality control requirement or federally enforceable requirement. As set out in 18 AAC 50.350(m), the shield of AS 46.14.290 does not apply to these emission units.

46. For emission units at the stationary source that are insignificant as defined in 18 AAC 50.335(q)-(v) that are not listed in this permit, the following apply:

46.1 The Permittee shall submit the compliance certifications of condition 78 based on reasonable inquiry.

46.2 The Permittee shall comply with the requirements of condition 58.

46.3 The Permittee shall report in the Operating Report required by condition 77 if an emission unit is insignificant because of historic actual emissions less than the thresholds of 18 AAC 50.335(r) and current actual emissions become greater than any of those thresholds.

46.4 No other monitoring, recordkeeping or reporting is required.

[18 AAC 50.346(b)(1), 5/3/02]

47. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from an industrial process, fuel-burning equipment, or an incinerator to reduce visibility through the exhaust effluent by any of the following:

47.1 more than 20 percent for a total of more than three minutes in any one hour[13];

[18 AAC 50.050(a)(2) & 50.055(a)(1), 1/18/97]
[40 C.F.R. 52.70, 7/01/01]

47.2 more than 20 percent averaged over any six consecutive minutes[14].

[18 AAC 50.050(a) & 50.055(a)(1), 5/3/02]

48. The Permittee shall not cause or allow PM emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.055(b)(1), 1/18/97]

49. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO2, from an industrial process or fuel-burning equipment, to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c), 1/18/97]

[13] See Footnote 1.
[14] See Footnote 2.

Section 7. Generally Applicable Requirements

50. NESHAPs Subpart A, Applicability Determination. The Permittee shall determine rule applicability and designation of affected sources under National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Source Categories (40 C.F.R. 63) in accordance with the procedures described in 40 C.F.R. 63.1(b).

50.1 **NESHAPS Subpart A, Recordkeeping.** The Permittee shall maintain records in accordance with §63.10(b)(3).

[40 C.F.R. 63.1(b), & §63.10(b)(3), 4/5/02]
[18 AAC 50.040(c)(1)(A) & (E), 8/15/02; 18 AAC 50.350(h), 5/3/02]

51. Asbestos NESHAP. The Permittee shall comply with the requirements set forth in 40 C.F.R. 61.145 and 61.150 of Subpart M, and the applicable sections set forth in 40 C.F.R. 61, Subpart A and Appendix A.

[18 AAC 50.040(b)(3), 8/15/02 & 50.350(d)(1)(A), 1/18/97]
[40 C.F.R. 61, Subparts A & M, and Appendix A, 7/1/01]

52. Refrigerant Recycling and Disposal. The Permittee shall comply with the standards for recycling and emission reduction of refrigerants set forth in 40 C.F.R. 82, Subpart F. Applicable requirements include 40 C.F.R. 82.154, 82.156, 82.161, 82.162 and 82.166.

[18 AAC 50.040(d), 8/15/02 & 50.350(d)(1)(A), 1/18/97]
[40 C.F.R. 82, Subpart F, 7/1/01]

53. Good Air Pollution Control Practice. The Permittee shall do the following for Emission Units 419, 420, 421, 502, 505 and 507 listed in Table 1:

a. Perform regular maintenance considering the manufacturer's or the operator's maintenance procedures;

b. Keep records of any maintenance that would have a significant effect on emissions; the records may be kept in electronic format;

c. Keep a copy of either the manufacturer's or the operator's maintenance procedures.

[18 AAC 50.030 & 50.346(b)(2), 5/3/02 & 18 AAC 50.350(f)(2) & (3), 1/18/97]

54. Dilution. The Permittee shall not dilute emissions with air to comply with this permit. Monitoring shall consist of an annual certification that the Permittee does not dilute emissions to comply with this permit.

[18 AAC 50.045(a), 1/18/97]

55. Reasonable Precautions to Prevent Fugitive Dust. The Permittee shall take reasonable precautions to prevent particulate matter from being emitted into the ambient air when causing or permitting bulk materials to be handled, transported, stored, or when engaging in an industrial activity or construction project. Monitoring shall consist of an annual certification that reasonable precautions were taken.

[18 AAC 50.346(c) & 50.350(g), 5/3/02; 18 AAC 50.045(d), 1/18/97 & 18 AAC 50.040(e), 8/15/02]

56. Stack Injection. The Permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a source constructed or modified after November 1, 1982, unless approved in writing by the Department. Monitoring shall consist of an annual certification that the Permittee does not conduct stack injection at the stationary source.

[18 AAC 50.055(g), 1/18/97]

57. Open Burning. The Permittee shall conduct any open burning at the stationary source in accordance with the requirements of 18 AAC 50.065. Monitoring shall consist of an annual certification that any open burning complied with 18 AAC 50.065.

[18 AAC 50.040(e), 8/15/02, 18 AAC 50.065, 7/21/01, 18 AAC 50.350(d)(1), 1/18/97]

58. Air Pollution Prohibited. No person may permit any emission which is injurious to human health or welfare, animal or plant life, property, or which would unreasonably interfere with the enjoyment of life or property.

[18 AAC 50.346(a)(2), 5/3/02; 18 AAC 50.110, 5/26/72; 18 AAC 50.040(e), 8/15/02]

58.1 If emissions present are a potential threat to human health or safety, the Permittee shall report any such emissions according to condition 75.

58.2 As soon as practicable after becoming aware of a complaint that is attributable to emissions from the stationary source, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of condition 58.

58.3 The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if:

a. after an investigation because of a complaint or other reason, the Permittee believes that emissions from the stationary source have caused or are causing a violation of condition 58; or

b. the Department notifies the Permittee that it has found a violation of condition 58.

58.4 The Permittee shall keep records of:

a. the date, time and nature of all emissions complaints received;

b. the name of the person or persons that complained, if known;

c. a summary of any investigation, including reasons the Permittee does or does not believe the emissions have caused a violation of condition 58; and

d. any corrective actions taken or planned for complaints attributable to emissions from the stationary source.

58.5 With each Operating Report under condition 77, the Permittee shall include a brief summary report which must include:

a. the number of complaints received;

b. the number of times the Permittee or the Department found corrective action necessary;

c. the number of times action was taken on a complaint within 24 hours; and

d. the status of corrective actions the Permittee or Department found necessary that were not taken within 24 hours.

58.6 The Permittee shall notify the Department of a complaint that is attributable to emissions from the stationary source within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.

[18 AAC 50.346(a)(2) & 50.350(g) - (i), 5/3/02]

59. Technology-Based Emission Standard. If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235, causes emissions in excess of a technology-based emission standard[15], the Permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard. Excess emissions reporting under condition 75 requires information on the steps taken to minimize emissions. The report required under condition 75 is adequate monitoring for compliance under this condition.

[18 AAC 50.235(a) & 50.350(f)(3), 1/18/97

60. Permit Renewal. To renew this permit, the Permittee shall submit an application under 18 AAC 50.335 no sooner than **June 30, 2007** and no later than **June 30, 2008.**

[18 AAC 50.335(a), 1/18/97]

[15] *Technology-based emission standard* means a best available control technology standard (BACT); a lowest achievable emission rate standard (LAER); a maximum achievable control technology standard established under 40 C.F.R. 63, Subpart B, adopted by reference in 18 AAC 50.040(c); a standard adopted by reference in 18 AAC 50.040(a) or (c); and any other similar standard for which the stringency of the standard is based on determinations of what is technologically feasible, considering relevant factors. [18 AAC 50.990(91)]

Section 8. General Source Testing and Monitoring Requirements

61. Requested Source Tests. In addition to any source testing explicitly required by the permit, the Permittee shall conduct source testing as requested by the Department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a), 1/18/97 & 18 AAC 50.345(a) & (k), 5/3/02]

62. Operating Conditions. Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing:

[18 AAC 50.220(b), 1/18/97 & 18 AAC 50.350(g), 5/3/02]

62.1 at a point or points that characterize the actual discharge into the ambient air; and

62.2 at the maximum rated burning or operating capacity of the unit or another rate determined by the Department to characterize the actual discharge into the ambient air.

63. Reference Test Methods. The Permittee shall use the following as reference test methods when conducting source testing for compliance with this permit:

63.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.220(c)(1)(A) & 50.350(g) & 18 AAC 50.040(a), 8/15/02]
[40 C.F.R. 60, 7/1/01]

63.2 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.

[18 AAC 50.040(b), 8/15/02; 18 AAC 50.350(g) & 50.220(c)(1)(B), 5/3/02]
[40 C.F.R. 61, 7/1/01]

63.3 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 C.F.R. 63.

[18 AAC 50.040(c), 8/15/02; 18 AAC 50.350(g), 5/3/02 & 50.220(c)(1)(C), 5/3/02]
[40 C.F.R. 63, 4/5/02]

63.4 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Reference Method 9.

[18 AAC 50.030, 5/3/02; 18 AAC 50.350(g) & 50.220(c)(1)(D), 5/3/02]

63.5 Source testing for emissions of total particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals and acid gases must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60, Appendix A.

[18 AAC 50.040(a)(4), 8/15/02; 18 AAC 50.350(g) & 50.220(c)(1)(E), 5/3/03]
[40 C.F.R. 60, Appendix A, 7/1/01]

63.6 Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M, Method 201.

[18 AAC 50.035(b)(2), 7/2/00; 18 AAC 50.350(g) & 50.220(c)(1)(F), 5/3/02]
[40 C.F.R. 51, Appendix M, 7/1/99]

63.7 Source testing for emissions of any pollutant may be determined using an alternative method approved by the Department in accordance with 40 C.F.R. 63 Appendix A, Method 301.

[18 AAC 50.040(c)(19), 8/15/02; 18 AAC 50.350(g) & 50.220(c)(2), 5/3/02]
[40 C.F.R. 63, Appendix A, Method 301, 4/5/02]

64. Excess Air Requirements. To determine compliance with this permit, standard exhaust gas volumes must include only the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific unit type, corrected to standard conditions (dry gas at 68° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(c)(3), 18 AAC 50.350(g) & 50.990(88), 5/3/02]

65. Test Exemption. The Permittee is not required to comply with conditions 67, 68 and 69 when the exhaust is observed for visible emissions.

[18 AAC 50.345(a), 5/3/02]

66. Test Deadline Extension. The Permittee may request an extension to a source test deadline established by the Department. The Permittee may delay a source test beyond the original deadline only if the extension is approved in writing by the Department's appropriate division director or designee.

[18 AAC 50.345(a) & (l), 5/3/02]

67. Test Plans. Except as provided in condition 65, before conducting any source tests, the Permittee shall submit a plan to the Department. The plan must include the methods and procedures to be used for sampling, testing and quality assurance and must specify how the unit will operate during the test and how the Permittee will document that operation. The Permittee shall submit a complete plan within 60 days after receiving a request under condition 61 and at least 30 days before the scheduled date of any test unless the Department agrees in writing to some other time period. Retesting may be done without resubmitting the plan.

[18 AAC 50.345(a) & (m), 5/3/02]

68. Test Notification. Except as provided in condition 65, at least 10 days before conducting a source test, the Permittee shall give the Department written notice of the date and the time the source test will begin.

[18 AAC 50.345(a) & (n), 5/3/02]

69. Test Reports. Except as provided in condition 65, within 60 days after completing a source test, the Permittee shall submit two copies of the results in the format set out in the *Source Test Report Outline*, adopted by reference in 18 AAC 50.030. The Permittee shall certify the results in the manner set out in condition 71. If requested in writing by the Department, the Permittee must provide preliminary results in a shorter period of time specified by the Department.

[18 AAC 50.345(a) & (o), 5/3/02]

70. Particulate Matter Calculations. In source testing for compliance with the particulate matter standards in conditions 4 and 48, the three-hour average is determined using the average of three one-hour test runs.

[18 AAC 50.220(f) & 50.350(g), 1/18/97]

Section 9. General Recordkeeping, Reporting, and Compliance Certification Requirements

71. Certification. The Permittee shall certify all reports, compliance certifications, or other documents submitted to the Department and required under the permit by including the signature of a responsible official for the permitted stationary source following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate and complete." Excess emission reports must be certified either upon submittal or with an operating report required for the same reporting period. All other reports and other documents must be certified upon submittal.

[18 AAC 50.205 and 50.350(b)(3) & (j), 1/18/97; and 18 AAC 50.345(a) & (j) and 50.350(j), 5/3/02]

72. Submittals. Unless otherwise directed by the Department or this permit, the Permittee shall send two copies of reports, compliance certifications and other submittals required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician. The Permittee may, upon consultation with the Compliance Technician regarding software compatibility, provide electronic copies of data reports, emission source test reports, or other records under a cover letter certified in accordance with condition 71.

[18 AAC 50.350(i), 5/3/02]

73. Information Requests. The Permittee shall furnish to the Department, within a reasonable time, any information the Department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the Department copies of records required to be kept by the permit. The Department may require the Permittee to furnish copies of those records directly to the federal administrator.

[18 AAC 50.200 & 50.350(b)(3), 1/18/97; and 18 AAC 50.345(a) & (i) & 50.350(g) – (i), 5/3/02]

74. Recordkeeping Requirements. The Permittee shall keep all records required by this permit for at least five years after the date of collection, including:

[18 ACC 50.350(h), 5/3/02]
[40 C.F.R. 60.7(f), Subpart A, 7/1/01]

74.1 copies of all reports and certifications submitted pursuant to this section of the permit; and

74.2 records of all monitoring required by this permit, and information about the monitoring including:

a. calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;

b. sampling dates and times of sampling or measurements;

c. the operating conditions that existed at the time of sampling or measurement;

d. the date analyses were performed;

e. the location where samples were taken;

f. the company or entity that performed the sampling and analyses;

g. the analytical techniques or methods used in the analyses; and

h. the results of the analyses.

75. Excess Emissions and Permit Deviation Reports.

75.1 Except as provided in condition 58, the Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit as follows:

a. in accordance with 18 AAC 50.240(c), as soon as possible after the event commenced or is discovered, report:

(i) emissions that present a potential threat to human health or safety; and

(ii) excess emissions that the Permittee believes to be unavoidable;

b. in accordance with 18 AAC 50.235(a), within two working days after the event commenced or was discovered, report an unavoidable emergency, malfunction, or nonroutine repair that causes emissions in excess of a technology based emission standard;

c. report all other excess emissions and permit deviations:

(i) within 30 days of the end of the month in which the emissions or deviation occurs or is discovered, except as provided in conditions 75.1c(ii) and 75.1c(iii);

(ii) if a continuous or recurring excess emissions is not corrected within 48 hours of discovery, within 72 hours of discovery unless the Department provides written permission to report under condition 75.1c(i); and

(iii) for failure to monitor, as required in other applicable conditions of this permit.

75.2 When reporting excess emissions, the Permittee must report using either the Department's on-line form, or if the Permittee prefers, the form contained in Section 14 of this permit. The Permittee must provide all information called for by the form that is used.

75.3 When reporting a permit deviation, the Permittee must report using either the Department's on-line form, or if the Permittee prefers, the form contained in Section 14 of this permit. The Permittee must provide all information called for by the form.

75.4 If requested by the Department, the Permittee shall provide a more detailed written report as requested to follow up an excess emissions report.

[18 AAC 50.235(a)(2), 50.240(c), 1/18/97; 18 AAC 50.350(i) & 50.346(a)(3), 5/3/02

76. NSPS and NESHAP Reports. The Permittee shall:

76.1 attach to the operating report required by condition 77, copies of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10 unless copies have already been provided to the Department at the time submitted to EPA; and

76.2 upon request by the Department, notify and provide a written copy of any EPA-granted waiver of the federal emission standards, recordkeeping, monitoring, performance testing, reporting requirements, or approved custom monitoring schedules.

[18 AAC 50.040, 8/15/02 & 18 AAC 350(i)(2), 5/3/02]
[40 C.F.R. 60 &. 61, 7/1/01]

77. Operating Reports. During the life of this permit, the Permittee shall submit to the Department an original and two copies of an operating report by April 30 for the period January 1 to March 31, by July 30 for the period April 1 to June 30, by October 30 for the period July 1 to September 30, and by February 14 for the period October 1 to December 31 of the previous year.

77.1 The operating report must include all information required to be in operating reports by other conditions of this permit.

77.2 If excess emissions or permit deviations that occurred during the reporting period are not reported under condition 77.1, either:

a. The Permittee shall identify:

(i) the date of the deviation;

(ii) the equipment involved;

(iii) the permit condition affected;

(iv) a description of the excess emissions or permit deviation; and

(v) any corrective action or preventive measures taken and the date of such actions; or

b. When excess emissions or permit deviations have already been reported under condition 75 the Permittee may cite the date or dates of those reports.

[18 AAC 50.346(b)(3), 5/3/02; 18 AAC 50.350(d)(4), 6/21/98 and 18 AAC 50.350(f)(3) & (i), 1/18/97]

78. Annual Compliance Certification. Each year by March 31 and for the reporting periods following the effective date of this permit, the Permittee shall compile and submit to the Department one original and one copy of an annual compliance certification report as follows:

[18 AAC 50.350(j), 5/3/02]

78.1 For each permit term and condition set forth in Section 3 through Section 9, including terms and conditions for monitoring, reporting and recordkeeping:

[18 AAC 50.350(d)(4), 6/21/98]

a. certify the compliance status over the preceding calendar year consistent with the monitoring required by this permit;

b. state whether compliance is intermittent or continuous;

c. briefly describe each method used to determine the compliance status; and

d. notarize the responsible official's signature.

[18 AAC 50.205, 1/18/97 & 50.345(a) & (j), 5/3/02]

78.2 In addition, submit a copy of the report directly to the EPA-Region 10, Office of Air Quality, M/S OAQ-107, 1200 Sixth Avenue, Seattle, WA 98101.

[18 AAC 50.350(j), 5/3/02]

Section 10. Standard Conditions Not Otherwise Included in the Permit

79. The Permittee must comply with each permit term and condition. Noncompliance with a permit term or condition constitutes a violation of AS 46.14, 18 AAC 50, and, except for those terms or conditions designated in the permit as not federally enforceable, the Clean Air Act, and is grounds for:

79.1 an enforcement action;

79.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280; or

79.3 denial of an operating-permit renewal application.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (c), 5/3/02]

80. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (d), 5/3/02]

81. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of the permit.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (e), 5/3/02]

82. Compliance with permit terms and conditions is considered to be compliance with those requirements that are:

82.1 included and specifically identified in the permit; or

82.2 determined in writing in the permit to be inapplicable.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (b), 5/3/02]

83. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (f), 5/3/02]

84. The permit does not convey any property rights of any sort, nor any exclusive privilege.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (g), 5/3/02]

85. The Permittee shall allow the Department or an inspector authorized by the Department, upon presentation of credentials and at reasonable times with the consent of the owner or operator to:

85.1 enter upon the premises where an emission unit subject to the permit is located or where records required by the permit are kept;

85.2 have access to and copy any records required by the permit;

85.3 inspect any stationary source, equipment, practices, or operations regulated by or referenced in the permit; and

85.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.350(b)(3), 1/18/97 & 18 AAC 50.345(a) & (h), 5/3/02]

Section 11. Permit As Shield from Inapplicable Requirements

In accordance with AS 46.14.290, and based on information supplied in the stationary source application, this section of the permit contains the requirements determined by the Department not to be applicable to Badami.

Table 3 identifies the emission units that are not subject to the specified requirements at the time of permit issuance. Some of the requirements listed below may become applicable during the permit term due to an invoking event, even though the requirement is deemed inapplicable at the time of permit issuance.

86. If any of the requirements listed in Table 3 becomes applicable during the permit term, the Permittee shall comply with such requirements on a timely basis including, but not limited to, providing appropriate notification to EPA, obtaining a construction permit and/or an operating permit revision, if necessary.

Table 3 - Permit Shields Granted.

Non-Applicable Requirements	Reason for Non-Applicability
Turbines 500 and 501	
40 C.F.R. 60 Subpart GG: §60.332(a)(1) - Standards for NO_x	Standard applies to Electric Utility Stationary Gas Turbines, as defined in subpart. Unit is not an Electric Utility Stationary Gas Turbine as defined in Subpart GG.
40 C.F.R. 60 Subpart GG: §60.334(a) – Monitoring of Operations §60.335(c)(2) – Test Methods and Procedures	Applies only to affected turbines equipped with water injection to control emissions of NO_x. Unit is not equipped with water injection to control emissions of NO_x.
40 C.F.R. 60 Subpart GG: §60.334(b) -Monitoring of Operations (Fuel Nitrogen Only) §60.335(a) - Test Methods and Procedures	EPA Region X waived fuel bound nitrogen monitoring for NSPS affected stationary gas turbines operated at Prudhoe Bay (ref. correspondence dated August 19, 1996, November 12, 1998 and March 24, 1999).
40 C.F.R. 60 Subpart A: §60.7(a)(1) & (3) -Notification and Recordkeeping (Initial Notification) §60.8(a) –Performance Test, (Initial Performance Test Only) 40 C.F.R. Subpart GG: §60.335(b), (c)(l), (c)(3) - Test Methods and Procedures	Obsolete requirements - completed as required.
40 C.F.R. 60 Subpart A: §60.7(a)(4) - Notification and Recordkeeping	This requirement only applies to “existing facilities”, as defined in 40 C.F.R. 60.2.
40 C.F.R. 60 Subpart A: §60.15 - Reconstruction	This requirement only applies to “existing facilities”, as defined in 40 C.F.R. 60.2.
Incinerator 502	
18 AAC 50.050(b)	The limits of the standard do not apply to incinerators with a rated capacity less than 1000 pounds per hour.

Non-Applicable Requirements	Reason for Non-Applicability
18 AAC 50.055(c)	This limit does not apply since incinerators are not "industrial process" or "fuel burning equipment" as defined in 18 AAC 50.990.
Storage Tanks 417 and 418	
40 C.F.R. 60 Subpart Kb – Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction Commenced After July 23, 1984 – except §60.116b(a) & (b).	Per 40 C.F.R. 60.110b(c), all tanks greater than 151 cubic meters (1,000 barrels) storing liquids with a vapor pressure < 3.5 kPa are exempt from this subpart, except for the requirements of 40 C.F.R. 60.116b(a)&(b).
Stationary Source-Wide	
40 C.F.R. 60 - Standards of Performance for New Stationary Sources - Subparts B, C, Ca, Cb, F, G, H, I, J, M, N, Na, O, S, T, U, V, W, X, Y, Z, AA, AAa, BB, CC, EE, HH, KK, LL, MM, NN, PP, QQ, RR, SS, TT, UU, VV, WW, XX, BBB, DDD, FFF, GGG, HHH, III, JJJ, NNN, OOO, PPP, QQQ, RRR, SSS, TTT, UUU, and VVV.	Not an affected facility, operation or industry.
40 C.F.R. 60 - Standards of Performance for New Stationary Sources – Subparts D, Da, Db, E, Ea, Eb, Ec, K, Ka, L, P, Q, R, DD and AAA.	No affected facility within stationary source.
40 C.F.R. 60 - Standards of Performance for New Stationary Sources – Subpart KKK, Equipment Leaks of VOC from Onshore Fuel gas Processing Plants.	No affected facility within stationary source
40 C.F.R. 60 - Standards of Performance for New Stationary Sources – Subpart LLL, SO_2 Emissions from Onshore Fuel gas Processing Plants.	No affected facility within stationary source.
40 C.F.R. 61 – National Emission Standards for Hazardous Air Pollutants - Subparts B, C, D, E, F, H, I, K, L, N, O, P, Q, R, T, W, Y, BB, and FF.	Not an affected facility, operation or industry.
40 C.F.R. 61 – National Emission Standards for Hazardous Air Pollutants - Subpart J, Equipment Leaks of Benzene.	Stationary source does not contain any equipment in benzene service (> 10 % by weight).
40 C.F.R. 61 – National Emission Standards for Hazardous Air Pollutants - Subpart V, Equipment Leaks.	Per 40 C.F.R. 61.240(b), a facility must be subject to a specific subpart of 40 C.F.R. 61 to be subject to Subpart V.
40 C.F.R. 63 National Emission Standards for Source Categories - Subpart A - General Provisions – except for §63.1(b) and §63.10(b)(3).	Per 40 C.F.R. 63.1(a)(4), a facility must be subject to a specific subpart of 40 C.F.R. 63 to be subject to Subpart A.
40 C.F.R. 63 National Emission Standards for Source Categories - Subpart F, G, M, O, R, T, W, X and EE.	Not an affected facility, operation or industry.

Non-Applicable Requirements	Reason for Non-Applicability
40 C.F.R. 63 National Emission Standards for Source Categories – Subpart H, Equipment Leaks.	Per 40 C.F.R. 61.240(b), a facility must be subject to a specific subpart of 40 C.F.R. 61 or 63 to be subject to Subpart H.
40 C.F.R. 63 National Emission Standards for Source Categories –Subpart L, N, and Q	No affected facility within stationary source.
40 C.F.R. 63 National Emission Standards for Source Categories –Subpart HH, Oil and Fuel gas Production Facilities	Per 40 C.F.R. 63.760(e)(1), the facility is exempt from the requirements of 40 C.F.R. 63, Subpart HH. The facility exclusively processes, stores, or transfers black oil.
40 C.F.R. 68 - Chemical Accidental Prevention Provisions	The stationary source does not have more than a threshold quantity of a regulated substance in a process.

[18 AAC 50.350(l), 1/18/97]

Section 12. Visible Emissions Forms

Visible Emissions Field Data Sheet

Certified Observer: _____

Company & Facility: _____

Location: _____

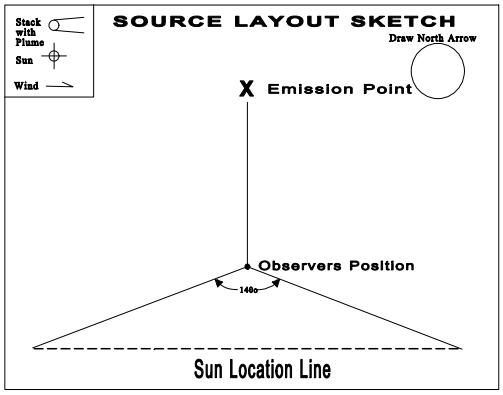
Test No.: _____ Date: _____

Source: _____

Operating Rate: _____

_____

_____



Clock Time	Initial				Final
Observer location Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description: Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					

Visible Emissions Observation Record

Page ___ of ___

Company & Facility _____ Certified Observer_____

Test Number _____ Clock time_____

Date:		Visibility reduction every 15 Seconds (Opacity)				Steam Plume (check if applicable)		Comments
Hr	Min	0	15	30	45	Attached	Detached	

Additional information:

_____ _____

Observer Signature and Date Certified By and Date

Data Reduction:

Duration of Observation Period (minutes) _____ Duration Required by Permit (minutes)_____

Number of Observations _____ Highest Six –Minute Average Opacity (%)_____

Number of Observations exceeding 20 % _____

In compliance with three-minute aggregate opacity limit? (Yes or No) _____

In compliance with six-minute opacity limit? (Yes or No) _____

Average Opacity Summary

Set Number	Time Start—End	Opacity	
		Sum	Average

Section 13. SO_2 Material Balance Calculation

If a fuel shipment contains more than 0.75 percent sulfur by weight, calculate the three-hour exhaust concentration of SO_2 using the following equations:

A = 31,200 X [wt%S_{fuel}] = 31,200 X _____ = _____

B = 0.148 X [wt%S_{fuel}] = 0.148 X _____ = _____

C = 0.396 X [wt%C_{fuel}] = 0.396 X _____ = _____

D = 0.933 X [wt%H_{fuel}] = 0.933 X _____ = _____

E = B + C + D = _____ + _____ + _____ = _____

F = 20.9 – [vol%$_{dry}O_{2,\ exhaust}$] = 20.9 - _____ = _____

G = [vol%$_{dry}O_{2,\ exhaust}$] ÷ F = _____ ÷ _____ = _____

H = 1 + G = 1 + _____ = _____

I = E x H = _____ x _____ = _____

SO_2 concentration = A ÷ I = _____ ÷ _____ = _____ ppm

The wt%S_{fuel}, wt%C_{fuel}, and wt%H_{fuel} are equal to the weight percents of sulfur, carbon and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is obtained pursuant to condition 6. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (vol%$_{dry}O_{2,\ exhaust}$) is obtained from oxygen meters, manufacturer's data, or from the most recent analysis under 40 C.F.R. 60, Appendix A-2, Method 3, adopted by reference in 18 AAC 50.040(a), at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if **wt%S_{fuel}** = 1.0%, then enter 1.0 into the equations, not 0.01, and if **vol%$_{dry}O_{2,\ exhaust}$** = 3.00%, then enter 3.00, not 0.03.

[18 AAC 50.346(c), 5/3/02]

Section 14. ADEC Notification Form

Fax this form to: (907) 269-7508 Telephone: (907) 269-8888

BP Exploration (Alaska) Inc.
Company Name

Badami Development Facility
Stationary Source Name

Reason for notification:

❑ **Excess Emissions**
If you checked this box
Fill out section 1

❑ **Other Deviation from Permit Condition**
If you checked this box
fill out section 2

When did you discover the Excess Emissions or Other Deviation:
Date:__/__/__ Time:__:__

Section 1. Excess Emissions

(a) Event Information (Use 24-hour clock)**:**

	START Time**:** (hr:min):	**END** Time:	**Duration**
Date: _____	_____:_____	_____:_____	_____:_____
Date: _____	_____:_____	_____:_____	_____:_____
		Total:	_____:_____

(b) Cause of Event (Check all that apply)**:**

❑ START UP ❑ UPSET CONDITION ❑ CONTROL EQUIPMENT
❑ SHUT DOWN ❑ SCHEDULED MAINTENANCE ❑ OTHER _____

Attach a detailed description of what happened, including the parameters or operating conditions exceeded.

(c) Emission Units Involved:

Identify each emission unit involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Unit No.	Name	Description	Control Device

(d) Emission Limit Potentially Exceeded

Identify each emission standard potentially exceeded during the event. Attach a list of ALL known or suspected injuries or health impacts. Identify what observation or data prompted this report. Attach additional sheets as necessary.

Permit Condition	Limit	Emissions Observed

(e) Excess Emission Reduction:

Attach a description of the measures taken to minimize and/or control emissions during the event.

(f) Corrective Actions:

Attach a description of corrective actions taken to restore the system to normal operation and to minimize or eliminate chances of a recurrence.

(g) Unavoidable Emissions:

Do you intend to assert that these excess emissions were unavoidable?

❑ YES ❑ NO

Do you intend to assert the affirmative defense of 18 AAC 50.235?

❑ YES ❑ NO

Section 2. Other Permit Deviations

(a) Emission Units Involved:

Identify each emission unit involved in the event, using the same identification number and name as in the permit. List any control device or monitoring system affected by the event. Attach additional sheets as necessary.

Unit No.	Name	Description	Control Device

(b) Permit Condition Deviation:

Identify each permit condition deviation or potential deviation. Attach additional sheets as necessary.

Permit Condition	Potential Deviation

(c) Corrective Actions:

Attach a description of actions taken to correct the deviation or potential deviation and to prevent recurrence.

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name: Signature: Date:

Alaska Department of Environmental Conservation

Air Permits Program

BP Exploration (Alaska) Inc.

Badami Development Facility

STATEMENT OF BASIS

of the terms and conditions for

Permit No. AQ0417TVP01

November 10, 2003

Prepared by Robert Dolan

Revision 2 prepared by Albert Faure and Sally A. Ryan

August 19, 2005

INTRODUCTION

This document sets forth the statement of basis for the terms and conditions of Operating Permit No. AQ0417TVP01, Revision 2.

STATIONARY SOURCE IDENTIFICATION

Section 1 of Operating Permit No. AQ0417TVP01 Revision 2 contains information on the Badami Development Facility (Badami).

Badami is owned and operated by BP Exploration (Alaska) Inc. (BPXA), and BPXA is the Permittee for the operating permit. The SIC code for Badami is 1311 - Crude Petroleum and Fuel gas Production, and the NAICS code of is 211111.

Badami is an existing oil and gas exploration and production operation.

Initial Operating Permit

At the time of initial operating permit issuance, Badami was in long term warm shutdown, i.e. Badami did not produce oil, gas, or water, but heat, lights, and security systems remained fully functional.

Revision 1

Revision 1 addresses a request received on April 13, 2004 from BPXA, as follows:

1) Update the best available control technology (BACT) limits for NOx and CO emissions from the Solar Mars Turbines (Units 5 and 6). ADEC approved revisions to the BACT limits in Air Quality Construction Permit No. 417CP04, Revision 2, issued 2/23/04.

2) Delete Section 8, Compliance Plan. Under Air Quality Construction Permit No. 417CP04, Revision 2, ADEC approved revised BACT limits for the two turbines (Units 500 and 501), and authorized removal of Unit 503 from the operating permit inventory. Because Construction Permit No. 417CP04, Revision 2, addressed the violations set forth in Counts 1 through 10 of Compliance Order by Consent (COBC) No. 2000-319-50-2672, the COBC terminated upon the effective date of the permit. Accordingly, a compliance plan for the COBC is no longer required.

Revision 1 of the operating permit was a minor permit modification under 40 C.F.R. 71.7(e)(1) and did not require public notice. Processing of this modification request was suspended when BPXA submitted the Badami Restart construction permit application, described in the next paragraph. The Department never issued Revision 1 of the operating permit. Revision 2 (discussed below) incorporates the changes requested by BPXA on April 13, 2004.

Revision 2

On July 18, 2005, the department issued construction permit AQ0417CPT01, which authorized the Badami Restart Project. This permit was to become effective on August 20, 2005.

BPXA requested an informal review of Construction Permit No. AQ0417CPT05 on July 29, 2005. The department reviewed BPXA's requests and rendered decisions on each issue as described in a letter dated August 12, 2005. The department issued Construction Permit AQ0417CPT05, Revision 1, on August 19, 2005 (effective August 20, 2005). Permit No. AQ0417CPT05, Revision 1 replaces Permit No. AQ417CPT05 in its entirety. The terms and conditions of Permit No. AQ0417CPT05, Revision 1 are incorporated into the operating permit as AQ0417TVP01, Revision 2.

The restart project includes implementation of new oil recovery techniques for the Badami reservoir. The Department has described the project in detail in the Technical Analysis Report for Construction Permit No. AQ0417CPT05, Revision 1.

The restart project has a lifetime of 36 months, After the 36 month restart period, BPXA may still operate under this permit with possible additional restrictions.

In addition to authorizing the Restart Project, the construction permit addressed the following requests from BPXA.

1) Update the emission unit inventory, update the emission unit inventory in accordance with the Department guidance document No. 04.02.105 dated October 8, 2004, add an Owner Requested Limit (ORL) of 336 tpy CO emissions for Emission Units 500 and 501, add an ORL of 800,000 gallons fuel per year for Emission Units 420 and 421, revise a SO_2 BACT limit to accommodate the use of Endicott fuel gas at Badami under specific operational conditions, revise a PM-10 BACT (opacity) limit for Emission Units 420 and 421 under specific operational modes, and modify the ambient air boundary.

2) Operational restrictions and the use of the gas turbines under specific stationary source operating modes (regimes); load bank monitoring, recording and reporting requirements with regard to the load bank load and operation mode.

3) Specific conditions regarding specific operating requirements, definitions, load demonstration(s) and energy demand demonstration(s).

EMISSION UNIT INVENTORY AND DESCRIPTION

Table 1 of Operating Permit No. AQ0417TVP01 Revision 2 contains information on the emission units at the stationary source as provided in BPXA's operating application and subsequent construction permit applications. The table is provided for informational and identification purposes only. Specifically, the emission unit rating/size provided in the table does not create an enforceable limit.

EMISSIONS

A summary of the potential to emit (PTE)[16] and assessable PTE as amended in Revision 2 is shown in the table below.

[16] *Potential to Emit or PTE* means the maximum quantity of a release of an air pollutant, considering a stationary source's physical or operational design, based on continual operation of all emission units within the stationary

Table A - Emissions Summary in Tons Per Year (TPY)

Pollutant	NO_X	CO	PM-10	SO_2	VOC	Total
PTE	277.9	382.0	11.6	66.6	8.4	746.5
Assessable PTE	277.9	382.0	11.6	66.6	0	738

Note: Emissions are as provided in the TAR for Construction Permit No. AQ417CPT05, Revision 1. Emission factors used to determine the PTE were derived from either AP-42 tables, manufacturer's data, source test results, or BACT limits, as described in the TAR.

The assessable PTE listed under condition 1.1 is the sum of the emissions of each individual regulated air pollutant for which the stationary source has the potential to emit quantities greater than 10 TPY. Except as otherwise noted in the permit, the emissions listed in Table A are estimates that are for informational use only. The listing of the emissions in Table A does not create an enforceable limit at the stationary source.

BASIS FOR REQUIRING AN OPERATING PERMIT

Badami requires an operating permit under 18 AAC 50.325(b)(1), (b)(3) and (c).[17]

Badami contains emission units subject to federal emission standards, is classified under 18 AAC 50.300(b)(2) and (c)(1), and also contains emission units subject to an existing construction permit. Therefore, under 18 AAC 50.335(e), BPXA's application for an operating permit revision must include identification of the following "regulated sources":

- Each emission unit subject to a standard adopted by reference in 18 AAC 50.040 under 18 AAC 50.335(e)(2)

- Each emission unit regulated by a standard in 18 AAC 50.055, Industrial Processes and Fuel Burning Equipment, under 18 AAC 50.335(e)(4)(C)

- Emission Units subject to requirements in an existing Air Quality Control Construction Permit 18 AAC 50.335(e)(5)

The emission units at Badami, classified as "regulated" according to the above Department regulations, are listed in Table 1 of Operating Permit No. AQ0417TVP01, Revision 2.

source for 24 hours a day, 365 days a year, reduced by the effect of pollution control equipment and approved state or federal limitations on the capacity of the stationary source's emission unit or the emission unit to emit an air pollutant, including limitations such as restrictions on hours or rates of operation and type or amount of material combusted, stored, or processed as defined in AS 46.14.990(21), effective 1/18/97.

[17] The department's regulations have changed since the initial operating permit was issued. The Department has *not* updated all of the regulation citations as part of Revision 2. The Department will update the regulation citations upon permit renewal.

CURRENT AIR QUALITY PERMITS

Background

On January 18, 1997, the Department implemented a divided construction and operating permit program. Air quality permits issued prior to this date were called "permits-to-operate," and included all construction permit requirements as well as operating permit requirements. Since January 18, 1997, the Department has authorized construction activities through its construction permit program. The Department usually issues Construction Permits separately from the Title V Operating Permits, but the Department may combine Construction Permits with a Title V Operating Permit if requested by the Permittee. If a construction permit is not issued concurrently with the Title V Operating permit, then the Title V Operating Permit must eventually be amended to incorporate the construction permit requirements.

Construction Permits

The Department originally issued Air Quality Construction Permit No. 9872-AC007 to BPXA for Badami on August 7, 1998. The Department later revised and reissued Construction Permit 9872-AC007 as Construction Permit 0173-AC001 on March 16, 2001, Construction Permit 0173-AC001 as 417CP04 on November 7, 2002, 417CP04 as AQC 417CP04, Revision 1 on September 11, 2003, AQC 417CP04, Revision 2 on February 23, 2004, Construction Permit No AQ0417CPT05 on July 18, 2005, and Construction Permit No. AQ0417CPT05, Revision 1 on August 19, 2005.

Stationary source-specific requirements established in all construction permits issued for Badami after January 18, 1997 are included in Operating Permit No. AQ0417TVP01 Revision 2 as described below.

Title V Operating Permit Application History

BPXA submitted an operating permit application for Badami in July 1998. Since then, proposed operations have changed substantially, and the information in the application has been updated by the construction permits listed above.

Compliance History

The stationary source has operated at its current location since 1998. In July 1999, the Department and BPXA agreed to execute COBC number 99-054-050 in response to emissions of carbon monoxide from Emission Units 500, 501 and 503 above levels established in the construction permit. COBC 99-054-050 expired on May 1, 2000. On March 21, 2001, the Department and BPXA agreed to execute COBC number 00-319-55-1565 for continued exceedances of CO emissions from the units, as well as exceedances of NOx emissions from Emission Units 500 and 501. The Department subsequently terminated, replaced and superseded COBC number 00-319-55-1565 with COBC 2000-319-50-1915 on July 27, 2001 and COBC 2000-319-50-1915 with COBC 2000-319-50-2672 on February 21, 2003.

Construction Permit No. 417CP04, Revisions 1 and 2 contain operating provisions that essentially resolved the excess CO and NOx emissions problems while Badami is in shut-down

mode. Because Construction Permit No. 417CP04, Revision 2, addressed the violations set forth in Counts 1-10 of COBC No. 2000-319-50-2672, the COBC terminated upon effective date of the revised construction permit. Accordingly, a compliance plan for the COBC is no longer needed. These operating provisions have been carried over into Operating Permit No. AQ0417TVP01, Revision 2.

STATIONARY SOURCE-SPECIFIC REQUIREMENTS CARRIED FORWARD

Table B below lists the permit condition that established a requirement in Construction Permit No. AQ0417CPT05, Revision 1, and the new condition in Operating Permit No. AQ0417TVP01 Revision 2 that carries the old requirement into the new permit.

Table B - Comparison of Conditions[18]

Permit No. AQ417CP05, Revision 1 Condition Number	Description	Permit No. AQ0417TVP01 Revision 2 Condition Number	Revisions (not including format changes)
IV.B	BACT mr&r - Standard and operation procedures emission units	8.1 & 8.2	No change
IV.C	BACT mr&r - Training	8.3	No change
IV.D & IV.E	BACT mr&r - Load Management	9	No change
IV.F	BACT mr&r - Units 500 and 501 Operating Mode Requirements	10	No change
IV.G	BACT mr&r - Operating Hours	11	No change
V.A	Ambient Air Quality Protection Requirements - Miscellaneous	12	Changed “natural” gas to “fuel gas”, also excluded emergencies
V.B	Ambient Air Quality Protection Requirements - Air Quality Boundary	13	No change
V.C	Ambient Air Quality Protection Requirements - Fuel Sulfur Limit	14	No change
V.D	Ambient Air Quality Protection Requirements - Liquid Fuel Limit	15	No change
V.E	Ambient Air Quality Protection Requirements – Monitoring and Recording	16	Condition 16.1 refers to condition 6.1 rather than repeating requirement (to avoid conflict), otherwise no change
V.F	Ambient Air Quality Protection Requirements – Reporting	17	Fixed cross reference in condition 17.1, otherwise no change
VI.A	NSPS Subpart A	21 - 25	Listed specific applicable NSPS Subpart A
N/A	NSPS Subpart Dc	26	Inadvertently missing from construction permit
VI.B	NSPS Subpart GG	27	Listed specific applicable NSPS Subpart A and alternative monitoring plan requirements
VII.A	Incinerator Emission Standards	7	Includes three minute state standard
VII.B.	Emission Unit 422 VE mr&r	7.1	No change
VII.C	Emission Unit 502 VE mr&r	7.2	No change

[18] This table does not include all standard and general conditions.

Permit No. AQ417CP05, Revision 1 Condition Number	Description	Permit No. AQ0417TVP01 Revision 2 Condition Number	Revisions (not including format changes)
VIII.A.	State visible emission and PM standards for fuel burning equipment	3.b & 4	No change
VIII.B.	"Old" State visible emission standard for fuel burning equipment	3.a	No change
VIII.C.	State sulfur compound emission standard for fuel burning equipment	6	Deleted unnecessary language, changed "natural gas" to "fuel gas"
VIII.D.1.	State visible emission monitoring and recording for Unit 419	3.1 & 4.2b(iv)	No change
VIII.D.2.	State visible emission monitoring for Unit 420 and 421	3.2	No change
VIII.D.3	State visible emission reporting for Units 500, 501, 503, 504, 505	3.3	Changed "natural gas" to "fuel gas", otherwise no change
VIII.D.4	State visible emission monitoring for Unit 507	3.4	No change
VIII.D.5.	State visible emission and PM mr&r	3.5	No change
N/A	State & BACT VE monitoring, recordkeeping, and reporting	4	Methodology for visible emission observations missing from construction permit
VIII.D.6.	State sulfur compound monitoring and recording	6.1	Changed "natural gas" to "fuel gas", and added recording requirements, otherwise no change
VIII.E.1.	State visible emission reporting	4.3a(i)	No change
VIII.E.2.	State sulfur compound reporting	6.2	No change
IX.A	NO_X, CO, SO_2, VOC, and PM-10 BACT Limits for Emission Units 420, 421, 500,501, 503, 504 and 505	18	PM-10 BACT (using visible emissions as a surrogate) limits listed under condition 3.c, 3.d, 3.e, otherwise no change
IX.B.1	NOx & CO BACT monitoring and recording	19.1	Added source testing requirements for Units 420 & 421 in condition 19.1a, fixed cross reference in condition 19.1c(iii), otherwise no change
IX.B.2	SO_2 BACT monitoring and recording	19.2	Fixed cross references to avoid duplication, otherwise no change
IX.B.3	PM-10 BACT - Visible emission (surrogate for PM-10 BACT) monitoring and recording for Units 420, 421, 500, 501, 503, 504 and 505	19.3	Condition 19.3 refers to condition 3.2 for Units 420/421 (monitoring), and condition 3.3 for other units (reporting), otherwise no change
IX.C	NO_X, CO, SO_2, VOC, and PM-10 BACT reporting for Emission Units 420, 421, 500,501, 503, 504 and 505	20	No change
X	BACT mr&r for Restart Project – General Conditions	31 - 33	Fixed typo in condition 31.2, otherwise no change
XI	BACT mr&r for Restart Project –	34 - 40	Fixed typo in condition 34.3, 35, 36,

Permit No. AQ417CP05, Revision 1 Condition Number	Description	Permit No. AQ0417TVP01 Revision 2 Condition Number	Revisions (not including format changes)
	Operating Mode Consequences		37, 38, otherwise no change
XII	BACT mr&r for Restart Project – LT Warm Shutdown Consequences	41 - 45	Changed natural gas to fuel gas, clarified language in condition 43

STATEMENT OF BASIS FOR THE PERMIT CONDITIONS

The state and federal regulations for each condition are cited in Operating Permit No. AQ0417TVP01.

Conditions 1 - 2, Emission Fees

Applicability: The regulations require all permits to include due dates for the payment of fees and any method the Permittee may use to re-compute assessable emissions.

Factual Basis: These standard conditions require the Permittee to pay fees in accordance with the Department's billing regulations. The billing regulations set the due dates for payment of fees based on the billing date.

The default assessable emissions are emissions of each air pollutant authorized by the permit (AS 46.14.250(h)(1)(A)). Air pollutant means any regulated air pollutant and any hazardous air pollutant. Therefore, assessable emissions under AS 46.14.250(h)(1)(A) means the **potential** to emit any air pollutant identified in the permit, including those not specifically limited by the permit. For example, hydrogen chloride (HCl) emissions from an incinerator are assessable emissions because they are a hazardous air pollutant, even if there is currently no emission limit on HCl for that class of incinerator.

The conditions also describe how the Permittee may calculate **actual** annual assessable emissions based on previous actual annual emissions. According to AS 46.14.250(h)(1)(B), assessable emissions are based on each air pollutant. Therefore, fees based on actual emissions must also be paid on any pollutant emitted whether or not the permit contains any limitation of that pollutant.

This standard condition specifies that, unless otherwise approved by the Department, calculations of assessable emissions based on actual emissions use the most recent previous calendar year's emissions. Since each current year's assessable emissions are based on the previous year, the Department will not give refunds or make additional billings at the end of the current year if the estimated emissions and current year actual emissions do not match. The Permittee will normally pay for actual emissions-just with a one-year time lag.

Projected actual emissions may differ from the previous year's actual emissions if there is a change at the stationary source, such as changes in equipment or an emission rate from existing equipment.

If the Permittee does not choose to annually calculate assessable emissions, emissions fees will be based on “potential to emit” (PTE).

The PTE set forth in the condition is based on liquid fuel with a sulfur content of 0.15 percent by weight or fuel gas with a sulfur content of 250 ppm H_2S by volume. If the actual sulfur content of the fuel is greater than these assumptions, the assessable emissions calculations provided by the Permittee should reflect the actual sulfur content.

Condition 3, Visible Emissions Standard

Applicability: This regulation applies to operation of all fuel-burning equipment in Alaska. Emission Units 419, 420, 421, 500, 501, 503, 504, 505 and 507 are fuel-burning equipment. Emission Units 420, 421, 500 and 501 are also subject to BACT limits for opacity (as a surrogate for PM) contained in Construction Permit No. AQ0417CP05.

Factual Basis: Condition 3 requires the Permittee to comply with the federal and the state visible emission standards applicable to fuel-burning equipment. The Permittee shall not cause or allow the equipment to violate these standards. This condition also contains BACT opacity limits from previous construction permits for Emission Units 420, 421, 500 and 501.

Emission Units 420 and 421 are subject to either a 10 percent or a 20 percent opacity (as a surrogate for PM-10) BACT limit, based on the operational mode of the stationary source.

Emission Units 500 and 501 are subject to a 20 percent opacity (as a surrogate for PM-10) BACT limit.

Gas-Fired:

Monitoring – Visible emission monitoring for gas-fired units (Emission Units 500 through 505, and 507) for compliance with the state standard is waived, i.e. no source testing is required. The Department has found that fuel gas fired equipment inherently has negligible visible emissions. However, the Department can request a source test for visible emissions from any smoking equipment.

Reporting – The Permittee must annually certify that only gaseous fuels are used in the equipment.

Liquid Fuel-Fired:

In this permit, for liquid fuel fired units, the Permittee will show compliance with the state standard and BACT standards by conducting Method 9 visible emission surveillance at the frequencies indicated in the permit.

Flares:

Monitoring for flares (Emission Unit 507) requires Method-9 observations once each calendar year that the flare operates. The Permittee must report the results of these observations to the Department.

Condition 4, Visible Emissions Monitoring, Recordkeeping, and Reporting

Applicability: These conditions provide the methodology for monitoring, recordkeeping, and reporting visible emissions.

Factual Basis: Each permit term and condition must include mr&r showing verifiable compliance with each permit term and condition.

Condition 5, Particulate Matter (PM) Standard

Applicability: The PM standard applies to operation of all fuel burning equipment in Alaska, except incinerators with a capacity less than 1,000 lbs per hour. Emission Units 420, 421, 500, 501, 503, 504, 505 and 507 are fuel-burning equipment. The State Implementation Plan (SIP) standard for PM applies to all fuel-burning equipment because it is contained in the federally approved SIP dated October 1983.

Factual Basis: Condition 4 requires the Permittee to comply with the state PM (also called grain loading) standard applicable to fuel-burning equipment. The Permittee shall not cause or allow fuel-burning equipment to violate this standard.

Gas-Fired:

Monitoring – PM monitoring of gas fired emission units is the same as the visible emission monitoring. (i.e. it is waived). The Department has found that fuel gas fired equipment inherently has negligible PM emissions. However, the Department can request a source test for PM emissions from any smoking equipment.

Reporting – The Permittee must annually certify that only gaseous fuels are used in the equipment (already required for visible emission monitoring).

Liquid Fuel-Fired:

Monitoring – The Permittee is required to conduct visible emission monitoring as required in condition 3. In addition, the Permittee is required to conduct PM source testing if threshold values for opacity are exceeded.

Recordkeeping - The Permittee is required to record the results of PM source tests.

Reporting - The Permittee is required to report: 1) incidents when emissions in excess of the opacity threshold values have been observed, 2) and results of PM source tests. The Permittee is required to include copies of the results of all visible emission observations with the operating report.

Flares:

Monitoring of gas fired flares for particulate matter is waived, i.e. no source testing will be required, because of the difficulty and questionable results these tests produce when applied to flares. The Department has recognized this fact by incorporating the waiver in the State Implementation Plan adopted in November 1984 which has not been federally approved. No recordkeeping or reporting is required.

Condition 6, Sulfur Compound Emissions

Applicability: The sulfur emission standard applies to operation of all fuel-burning equipment in the State of Alaska. Emission Units 419, 420, 421, 422, 500, 501, 503 through 505, and 507 are fuel-burning equipment. The SIP standard for sulfur compound emissions, expressed as sulfur dioxide (SO_2) applies because it is contained in the federally approved SIP dated October 1983. Emission Units 419, 420, 421, 422, 500, 501, 503 through 505 and 507 are also subject to ambient air quality protection requirements.

Factual basis: The condition requires the Permittee to comply with the sulfur compound emission standard applicable to fuel-burning equipment. The Permittee may not cause or allow the affected equipment to violate this standard.

SO_2 comes from the sulfur in the liquid, hydrocarbon fuel (e.g. diesel or No. 2 fuel oil). Fuel containing no more than 0.75 percent sulfur by weight will always comply with the emission standard. For fuels with sulfur content higher than 0.75 percent, the condition requires the Permittee to use Section 13 to calculate the SO_2concentration using the equations to show that the standard is not exceeded.

Fuel sulfur testing will verify compliance.

Fuel gas sulfur is measured as hydrogen sulfide (H_2S) concentration in ppm by volume (ppmv). Calculations[19] show that fuel gas containing no more than 4,000 ppm H_2S will always comply with this emission standard. This is true for all fuel gases, even with no excess air.

Equations to calculate the exhaust gas SO_2 concentrations resulting from the combustion of fuel gas were not included in this permit. Fuel gas with an H_2S concentration of even 10 percent of 4,000 ppm is currently not available in Alaska and is not projected to be available during the life of this permit.

Monitoring, recordkeeping, and reporting for the state sulfur compound emission standard was established in Construction Permit No. AQ0417CPT05, Revision 1 carried over into this operating permit. Basically, compliance with the state standard is ensured by compliance with a fuel gas H_2S limit of 250 ppmv (also for ambient air quality protection) and distillate fuel sulfur content limit of 0.15 wt%S (also necessary for ambient air quality protection).

The monitoring allows the Permittee to monitor fuel sulfur for fuel used in all units using the monitoring procedure required for Units 500 and 501 under NSPS.

However, the Permittee must report as an exceedance of the state standard only if sulfur compound emissions exceed 500 ppm (unlikely given the lower ambient air quality protection fuel sulfur requirements).

Condition 7, Incinerator Visible Emissions

Applicability: This visible emission standard applies to the operation of any incinerator in Alaska, including an air curtain incinerator. Badami operates two incinerators subject to state incinerator standards, Emission Unit 422 and 502. Emission Unit 422 is potentially insignificant for Title V permitting. However, it is subject to specific monitoring, recordkeeping, and reporting in Construction Permit No. AQ0417, so is included in the Title V permit.

Factual Basis: The condition requires the Permittee to comply with the visible emission standard applicable to incinerators. The Permittee may not cause or allow the affected incinerator to violate this standard.

Emission Unit 422 is subject to requirements carried over from Construction Permit No. AQ0417CPT05, Revision 1. For Emission Unit 502, the Permittee must certify whether it fires on propane or fuel gas.

[19] See ADEC Air Permits Web Site at http://www.dec.state.ak.us/air/ap/permit.htm, under "Stoichiometric Mass Balance Calculations of Exhaust Gas SO_2 Concentration."

Condition 8, Operational Procedures

Applicability: This requirement is applicable for Badami's power generation units, fuel burning equipment, process equipment, emission control devices and testing equipment. The Department originally established these requirements in Construction Permit 9873-AC007 as BACT monitoring. The requirements are also applicable to new equipment installed under Construction Permit No. AQ0417CPT05, Revision 1 (Restart Project).

Factual Basis: Condition 8 consists of training requirements to orient Badami operators regarding the terms, conditions and obligations of this operating permit.

Condition 9, Load Management

Applicability: This requirement is Badami restart project related power generation units (500, 501, 420 and 421) to reduce load bank utilization. The department established load management requirement in Construction Permit No. AQ0417CPT05, Revision 1 as BACT monitoring.

Factual Basis: Condition 9 includes the development, implementation of load management procedures, procedures to control, minimize and avoid load swings during the various operational modes. Also a crew education/training program is incorporated.

Condition 10, Operational Limits

Applicability: Operation restrictions for Emission Units 500 and 501. The department established operational limits in Construction Permit No. AQ0417CPT05, Revision 1 as BACT monitoring.

Factual Basis: The operational restriction for the Emission Units 500 and 501 are to reduce CO emissions, and to reduce the load bank utilization.

Condition 11, Operating Hours

Applicability: The department originally established the operating hour monitoring requirements limits in Construction Permit 9873-AC007 as BACT monitoring, and revised it in Construction Permit No. AQ0417CPT05, Revision 1 to reflect Restart Project requirements.

Factual Basis: The condition requires the Permittee to monitor the start and stop of the operation of the gas turbines, and to track hours of operation during the operating regimes as set out in condition 31. The Permittee is also required to track the duration of the restart project as described in condition 31**.**

The condition requires the Permittee to monitor the load bank load. The Department desires to maintain a record that reflects actual kW settings of the load bank on an hourly basis, periodically verifies settings, and records all changes to the settings. The purpose is to build a time histogram record that correlates turbine output, kW setting of the load bank, and records when the turbines are operating in SoLoNox mode.

However, the condition does not require BPXA to monitor the settings hourly. The permit requires BPXA to verify settings at each instance when the load bank load is adjusted, and twice daily coincident with physical inspections of the load bank. The department considers

this to be adequate as the load bank is controlled in incremental settings and must be done manually in the field (according to BPXA in a letter dated July 29, 2005).

Conditions 12 through 17, Ambient Air Quality Protection Requirements

Applicability: These requirements are necessary for NO_2, SO_2, and PM-10 ambient air quality protection. The department established these requirements in previous construction permits.

Factual Basis: Condition 12 restricts operations of Emission Unit 507 to no more than 20 MMscf per day, and burn no more than 152 MMscf per consecutive 12-month period.

Condition 13 requires the Permittee to comply with the stationary source air boundaries as set out in the "Public Access Control Plan". Further, the Permittee is not allowed to revise the ambient air boundaries without the Department's approval.

Condition 14 states the fuel sulfur content requirements for ambient air quality protection: limits of 250 ppmv H_2S limit in fuel gas (instantaneous), and 0.15 wt%S in liquid fuel. The 250 ppmv H_2S limit in fuel gas is also a BACT limit.

Condition 15 incorporates the annual fuel volume limit for Emission Units 420 and 421, combined; as well as annual and daily limits for emission units on drill rigs.

Conditions 16 and 17 contain the monitoring, recordkeeping and reporting to verify compliance with the ambient air quality protection requirements. For Drill Rigs emission units, the Permittee is authorized to operate any of the drill rigs listed in Operating Permit AQ455TVP01, Revision 1.

Conditions 18 through 20 and Section 5, BACT Requirements

Applicability: The Department established BACT limits for NOx, CO, PM-10 and SO_2 in Construction Permit No. AQ0417CPT05, Revision 1.

Factual Basis: Condition 18 contains the BACT limits.

Monitoring and Recordkeeping (Condition **19**) - Emission Units 500 and 501 gas producer speed and hours of operation will be monitored and used to calculate the NOx and CO emissions. Table 2 includes the specific NOx and CO emission factors for each operating range of the gas turbines. Monitoring, recordkeeping and reporting are required to verify compliance.

Condition 19.1a(i) requires source testing of either Emission Units 420 or 421. Monitoring, recordkeeping and reporting are required to verify compliance. Source testing may be waived if the Department determines that previous source tests are representative of current operating conditions or if a unit has been tested within the previous two years.

Condition 20 contains BACT reporting requirements.

Conditions 21 through 25, NSPS Subpart A Requirements

Applicability: The Department has incorporated by reference the NSPS effective July 1, 1999, for specific industrial activities, as listed in 18 AAC 50.040. Most (with the exception of some storage tanks) units subject to an NSPS are subject to Subpart A. At this stationary source, Emission Units 500 and 501 are subject to NSPS Subpart GG and therefore subject to

Subpart A. Emission Units 503 and 504 are subject to Subpart Dc and therefore subject to Subpart A.

Condition 21 - Start-up, shutdown, or malfunction record maintenance requirements in 40 C.F.R. 60.7(b) are applicable to all NSPS sources subject to Subpart A.

Recordkeeping requirements in 40 C.F.R. 60.7(f) are applicable to all NSPS sources. (Satisfied by condition 71)

Condition 22 - The Permittee has already complied with the initial performance test requirements in 40 C.F.R. 60.8 for Emission Units 5 and 6. However, additional performance test requirements may by applicable to the turbines if the Permittee is required to conduct source tests under the periodic monitoring requirements in condition 27.1b.

Condition 23 - Good air pollution control practices in 40 C.F.R. 60.11 are applicable to all NSPS sources subject to Subpart A (Emission Units 500, 501, 503, and 504).

Condition 24 - states that any credible evidence may be used to demonstrate compliance or establishing violations of relevant NSPS standards for Emission Units 500, 501, 503, and 504.

Condition 25 - Concealment of emissions prohibitions in 40 C.F.R. 60.12 are applicable to Emission Units 500, 501, 503, and 504.

The Flare is not subject to 40 C.F.R. 60.18 because it is a safety device and not a control device. It does not receive any tank vapors from any NSPS regulated units.

Factual Basis: Subpart A contains the general requirements applicable to all affected facilities (units) subject to NSPS. In general the intent of NSPS is to provide technology-based emission control standards.

Condition 26, NSPS Subpart Dc Requirements

Applicability: NSPS Subpart Dc applies to stationary Small-Industrial-Commercial-Institutional Steam Generating Units, a unit for which construction, modification, or reconstruction is commenced after June 9, 1989, and has a design input capacity of 29 megawatts (MW) (100 million Btu per hour [MMBtu/hr] or less, but greater than or equal to 2.9 MW [10 MMBtu/hr].

Factual basis: The Permittee received an authorization (waiver) from EPA (Region X) to relax the recordkeeping requirements for the fuel gas-fired heater units. The EPA approved quarterly fuel usage monitoring and recordkeeping. The EPA approval does not alter any other requirements of Subpart Dc.

Conditions 27 through 30, NSPS Subpart GG Requirements

Applicability: NSPS Subpart GG applies to stationary gas turbines with a heat input at peak load (maximum load at ISO standard day conditions[20]) equal to or greater than 10.7 gigajoules per hour (10 MMBtu/hr), based on the lower heating value (LHV) of the fuels fired and constructed, modified, or reconstructed after October 3, 1977. Emission Units 500

[20] *ISO standard day conditions* means 288 degrees Kelvin (59 degrees F), 60 percent relative humidity, and 101.3 kPa (14.7 psi) as defined in 40 C.F.R 60.331(g).

and 501 were installed after October 3, 1977. The heat input for Emission Units 500 and 501 is above 10.7 gigajoules/hour, therefore the turbines are subject to NSPS Subpart GG.

Emission Units 500 and 501 are subject to 40 C.F.R. 60.332(a)(2) for NO_X. Emission Units 500 and 501 are not subject to 40 C.F.R. 60.332(a)(1) because the stationary source is not an electric utility.

The EPA on November 12, 1998 approved an alternative monitoring plan for NSPS Subpart GG monitoring, recordkeeping, and reporting at Badami.

Fuel-bound nitrogen monitoring requirements do not apply when firing pipeline quality fuel gas. BPXA uses only pipeline quality fuel gas, so no monitoring for the fuel-bound nitrogen content in gaseous fuel is included in the permit. In addition, the alternative monitoring plan approved by EPA on November 12, 1998 waives nitrogen monitoring for fuel gas at Badami.

Factual Basis: These conditions incorporate NSPS Subpart GG NOx emission and sulfur compound limits. The Permittee may not allow equipment to violate these standards.

NITROGEN OXIDES (Condition 27)

NOx Standard - For a turbine subject to 40 C.F.R. 60.332(a)(2), the NOx standard is determined by the following equation:

$$STD_{NOX} = 0.015(14.4 / Y) + F$$

where,

STD_{NOX} = allowable NO_X emissions (percent by volume at 15 percent oxygen and on a dry basis).

Y = manufacturer's maximum rated heat input (kJ/W-hr), or actual measured heat rate based on lower heating value of fuel as measured at actual peak load for the affected facility. The value of Y shall not exceed 14.4 kJ/W-hr.

F = NO_X emissions allowance for fuel bound nitrogen, percent by volume, assumed to be zero for Alaska fuel.

Based on the manufacturer's heat rating at manufacturer's rated peak load of 11.3 kJ/W-hr, and assuming fuel bound nitrogen of zero, the NOx standard is 191 ppmv for Emission Units 500 and 501. The assumption that the fuel bound nitrogen is zero is a conservative assumption. The Permittee may submit a permit amendment request to the Department if site and fuel-specific data is available and the Permittee wishes to revise the NSPS NOx standard.

NOx Monitoring, Recordkeeping, and Reporting – As mentioned above, the alternative monitoring plan approved by EPA on November 12, 1998 waives nitrogen monitoring for fuel gas at Badami.

Alaska State regulations 18 AAC 50.335(g) require state operating permits to contain sufficient periodic monitoring to determine compliance with each permit condition. NSPS Subpart GG imposes no periodic monitoring requirements for the NOx standard, therefore the Department has developed periodic monitoring, recordkeeping, and reporting to ensure compliance with the standard.

The periodic monitoring, recordkeeping, and reporting requirements included in conditions 27.1 through 27.3 were developed as described below.

The Department does not have enough information to make categorical determinations that certain types of turbines, or turbines with emission test results below a certain percentage of the Subpart GG NOx emission limit will inherently comply with the Subpart GG limit at all times and will never need additional testing. After a sufficient body of NOx data is gathered under monitoring conditions for compliance with Subpart GG, the Department may find that it has enough information to make such categorical determinations. In that event, the Department would revise the NOx monitoring conditions. The Department may determine that to assure compliance it is necessary to retain or increase the current monitoring frequency.

These conditions do not include the initial NSPS performance test requirements.

The intent of these conditions is that turbines or groups of turbines be initially tested on a five-year cycle. If no testing is required during the permit term, and if the same condition were used in the renewal permit, initial testing could be on a 10-year testing cycle. After the first testing cycle, the Department intends to re-evaluate the necessary monitoring frequency.

The condition does not state how load must be measured. For some turbines it may be possible to directly measure load as either mechanical or electrical output. For others, it may be necessary to calculate load indirectly based on measurements of other parameters. The Department is not attempting to dictate what method is most appropriate through the permit condition, but should evaluate the adequacy of methods of calculating load based on the load monitoring proposed by the Permittee.

Subpart GG defines "emergency gas turbine" [21] and exempts turbines meeting that definition from the GG emission standards. Some turbines may be operated as standby equipment but not meet the definition of emergency turbine. The Department does not intend to require the Permittee to operate a turbine solely for the purpose of testing.

The condition requires testing at a range of loads, consistent with the performance test requirements in Subpart GG, that is, test at 30, 50, 75 and 100 percent load. If testing at these four loads is not reasonable, the condition allows the Permittee to propose to the Department what test loads will be reasonable and adequate, and the Department will have the responsibility to make a finding on that proposal. If EPA has already approved alternative test loads for the initial performance test the Department would allow those test loads if the information that went into that decision were still representative of the turbine operation.

In condition 27.1c(iii)(A)(3), the Department considers "fuel type" to mean, for liquid fuels a type of fuel as described in an ASTM or similar fuel specification.

Load measurements or load calculations from load surrogate measurements are for one-hour periods. The intent is to match the averaging period for the test method. Method 20 identifies a number of traverse points that vary with the size of the stack. From these points the tester is to choose at least eight points for NOx measurements. The time at each point is

[21] *Emergency Gas Turbine* means "any stationary gas turbine which operates as a mechanical or electrical power source only when the primary power source for a facility has been rendered inoperable by an emergency situation," as defined in 40 C.F.R. 60.331(e), effective 7/1/03.

to be at least one minute plus the average response time of the instrument. The recorded value is the average steady state response. Presumably, the steady state response would exclude some or all of the response time of the instrument. Three runs are to be done at each test load.

The three runs would represent 24 minutes of measurement time or more. A one-hour average load is therefore a reasonable approximation of a load period corresponding to the test method.

SULFUR DIOXIDE (Conditions 28 through 30)

SO_2 Standard - The Permittee is required to comply with one of the following sulfur requirements for Emission Units 500 and 501 (turbines):

(1) do not cause or allow SO_2 emission in excess of 0.015 percent by volume, at 15 percent O_2 and on a dry basis (150 ppmv); or

(2) do not cause or allow the sulfur content for the fuel burned in Emission Units 5 and 6 to exceed 0.8 percent by weight (8,000 ppmw).

The Permittee has elected to comply with the fuel sulfur content limit, therefore the Department did not include the 150 ppmv SO_2 NSPS emission limit in the permit.

SO_2 Monitoring, Recordkeeping, and Reporting -

Condition 29 incorporates NSPS Subpart GG fuel sulfur monitoring requirements.

As an alternative, BPXA may show compliance with the NSPS sulfur standard as described in condition 30. Condition 30 is based on the alternative monitoring plan approved for Badami by EPA on November 12, 1998. The Department has "gap-filled" the alternative monitoring plan by:

(1) adding specific language on the types of analytical methods (matches NSPS Subpart GG as amended July 8, 2004);

(2) requiring more frequent monitoring (on-going monthly rather than quarterly for six quarters then reduced to semiannually);

(3) requiring BPXA to report to the EPA sulfur monitoring data on a semiannual, rather than an annual, basis (the approved plan required annual reporting, however BPXA requested that the permit required semi-annual reporting); and

(4) requiring BPXA to report the monthly data to the Department (in the operating report required under condition 77).

Conditions 31 through 45, (Section 5) Restart Project BACT Monitoring, Recordkeeping, and Reporting

Applicability: These conditions were established in Construction Permit No. AQ0417CPT05, Revision 1, as part of the BACT requirements.

Factual Basis: These conditions describe the duration of the restart project. Monitoring, recordkeeping and reporting have been carried forward from previous construction permit.

These conditions include load demand demonstration, NOx and CO BACT analysis for the Emission Units 500 and 501, or their replacements. A required equipment "replacement

regime" or installation of CO emission controls if SoloNOx operation time is below the set threshold. Monitoring, recordkeeping, load demand demonstrations, descriptions and reporting requirements have been carried forward from previous construction permit

These conditions include energy demand demonstration, conversion option for the Emission Units 420 and 421 from diesel fuel to fuel gas, and including option for alternative power generation; an operational limitation for the Emission Units 500 and 501. Monitoring, recordkeeping, energy demand demonstrations, alternative energy supplies and reporting requirements have been carried forward from previous construction permit.

Conditions 46 through 49, Insignificant Emission Units

Applicability: These general emission standards apply to all industrial processes fuel-burning equipment, and incinerators regardless of size.

Factual Basis: The conditions re-iterate the general standards and require compliance for insignificant emission units. The Permittee may not cause or allow their equipment to violate these standards. Insignificant emission units are not listed in the permit unless specific monitoring, recordkeeping and reporting are necessary to ensure compliance.

The Department finds that the insignificant emission units at this stationary source do not need specific monitoring, recordkeeping and reporting to ensure compliance under these conditions. Condition 46 requires certification that the emission units did not exceed state emission standards during the previous year and did not emit any prohibited air pollution.

State air quality regulations adopted effective May 3, 2002 allow for an average six minute opacity observation. The existing regulation, limiting opacity to no more than 20 percent for more than three minutes in any one hour, is included because EPA Region X has not formally approved the changed opacity regulation as part of Alaska's State Implementation Plan (SIP).

Condition 50, NESHAPS Applicability Determinations

Applicability: NESHAPs Subpart A requirements apply to facilities categorized in 40 C.F.R. 63.

Factual basis: The condition requires the Permittee to retain records of NESHAP applicability determinations.

Condition 51, Asbestos NESHAP

Applicability: The asbestos demolition and renovation requirements apply if the Permittee engages in asbestos demolition or renovation.

Factual Basis: The condition requires the Permittee to comply with asbestos demolition or renovation requirements in 40 C.F.R. 61, Subpart M. Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with these federal regulations.

Condition 52, Refrigerant Recycling and Disposal

Applicability: Applies if the Permittee engages in the recycling or disposal of certain refrigerants.

Factual Basis: The condition requires the Permittee to comply with the standards for recycling and emission reduction of refrigerants set forth in 40 C.F.R. 82, Subpart F, that will apply if the Permittee uses certain refrigerants. Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient to ensure compliance with this federal regulation.

Condition 53, Good Air Pollution Control Practice

Applicability: Applies to all units, **except** NSPS regulated units, i.e. Emission Units 500, 501, 503 and 504.

Factual basis: The condition requires the Permittee to comply with good air pollution control practices for all units. Maintaining and operating equipment in good working order is fundamental to preventing unnecessary or excess emissions. Standard conditions for monitoring compliance with emission standards are based on the assumption that good maintenance is performed. Without appropriate maintenance, equipment can deteriorate more quickly than with appropriate maintenance. If appropriate maintenance is not applied to the equipment, the Department may have to apply more frequent periodic monitoring requirements (unless the monitoring is already continuous) to ensure that the monitoring results are representative of actual emissions.

The Permittee is required to keep maintenance records to show that proper maintenance procedures were followed, and to make the records available to the Department. The Department may use these records as a trigger for requesting source testing if the records show that maintenance has been deferred.

Condition 54, Dilution

Applicability: This state regulation applies to the Permittee because the Permittee is subject to emission standards in 18 AAC 50.

Factual Basis: The condition prohibits the Permittee from diluting emissions as a means of compliance with any standard in 18 AAC 50. No specific monitoring for this condition is practical. Other than the required annual certification, no monitoring, recordkeeping or reporting is necessary for this condition. The Permittee presently does not dilute emissions.

Dilution would probably require a physical change to the stationary source. A reasonable inquiry and certification by a responsible official as to whether such changes occurred over the reporting period is sufficient to assure compliance.

Condition 55, Reasonable Precautions to Prevent Fugitive Dust

Applicability: Bulk material handling requirements apply to the Permittee because the Permittee could engage in bulk material handling, transporting, or storing; or will engage in industrial activity at the stationary source.

Factual Basis: The underlying regulation, 18 AAC 50.045(d), requires the Permittee to take reasonable action to prevent particulate matter (PM) from being emitted into the ambient air.

Condition 56, Stack Injection

Applicability: Stack injection requirements apply to the stationary source because the stationary source contains a stack or emission unit constructed or modified after November 1, 1982.

Factual Basis: The condition prohibits the Permittee from releasing materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack (i.e. disposing of material by injecting it into a stack). No specific monitoring for this condition is practical. Compliance is ensured by inspections, because the emission unit or stack would need to be modified to accommodate stack injection.

Condition 57, Open Burning

Applicability: The open burning state regulation in 18 AAC 50.065 applies to the Permittee if the Permittee conducts open burning at the stationary source.

Factual Basis: The condition requires the Permittee to comply with the regulatory requirements when conducting open burning at the stationary source.

More extensive monitoring and recordkeeping is not warranted because the Permittee does not conduct open burning as a routine part of their business. Also, most of the requirements are prohibitions, which are not easily monitored. Additional monitoring is achieved through condition 58, which requires a record of complaints.

Condition 58, Air Pollution Prohibited

Applicability: Air Pollution Prohibited requirements apply to the stationary source because the stationary source will have emissions.

Factual Basis: The condition prohibits the Permittee from causing any emission which is injurious to human health or welfare, animal or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property. While the other permit conditions and emissions limitation should ensure compliance with this condition, unforeseen emission impacts can cause violations of this standard. These violations would go undetected except for complaints from affected persons. Therefore, to monitor compliance, the Permittee must monitor and respond to complaints.

The Permittee is required to report any complaints and injurious emissions. The Permittee must keep records of the date, time and nature of all complaints received, a summary of the investigation, corrective actions undertaken for these complaints and to submit copies of these records upon request of the Department.

The Department will determine whether the necessary actions were taken. No corrective actions are necessary if the complaint is frivolous or there is not a violation of 18 AAC 50.110, however this condition is intended to prevent the Permittee from prejudging that complaints are invalid.

Condition 59, Technology-Based Emission Standard

Applicability: Technology Based Emission Standard requirements apply to the stationary source because the stationary source contains equipment subject to a technology-based emission standard, such as BACT, MACT, LAER, NSPS or other "technologically feasible" determinations.

Factual Basis: The Permittee is required to take reasonable steps to minimize emissions if certain activity causes an exceedance of any technology-based emission standard in this permit. The conditions of this permit list applicable technology-based emission standards and require excess emission reporting for each standard in accordance with condition 75. Excess emission reporting under condition 75 requires information on the steps taken to minimize emissions. Monitoring of compliance for this condition consists of the report required under condition 75.

Condition 60, Permit Renewal

Applicability: Applies if the Permittee intends to renew the permit.

Factual Basis: The Permittee is required to submit an application for permit renewal by the specific dates applicable to Badami as listed in this condition. Monitoring, recordkeeping and reporting for this condition consist of the application submittal.

Condition 61, Requested Source Tests, Section 8

Applicability: Applies because this is a standard condition to be included in all permits.

Factual Basis: The Permittee is required to conduct source tests as requested by the Department. Monitoring consists of conducting the requested source test.

Conditions 62 through 64, Operating Conditions, Reference Test Methods, Excess Air Requirements

Applicability: Apply because the Permittee is required to conduct source tests by this permit.

Factual Basis: The Permittee is required to conduct source tests as set out in conditions 62 through 64. These conditions supplement the specific monitoring requirements stated elsewhere in this permit. Compliance monitoring with conditions 62 through 64 consists of the test reports required by condition 63.

Condition 65, Test Exemption

Applicability: Applies when the unit exhaust is observed for visible emissions.

Factual Basis: As provided in 18 AAC 50.345(a), 5/03/02, the requirements for test plans, notifications and reports do not apply to visible emissions observations by smoke readers, except in connection with required particulate matter testing.

Conditions 66 through 69, Test Deadline Extension, Test Plans, Notifications and Reports

Applicability: Apply because the Permittee is required to conduct source test by this permit.

Factual Basis: Standard conditions 18 AAC 50.345(l)-(o) are incorporated through these conditions. These standard conditions supplement specific monitoring requirements stated elsewhere in this permit. The source test itself monitors compliance with this condition.

Condition 70, Particulate Matter (PM) Calculations

Applicability: Applies when the Permittee tests for compliance with the PM standard.

Factual Basis: The condition incorporates a regulatory requirement for PM source tests. This condition supplements specific monitoring requirements stated elsewhere in this permit.

Condition 71, Certification

Applicability: This is a standard condition to be included in all permits. It applies because every permit requires the Permittee to submit reports.

Factual Basis: This condition requires the Permittee to certify all reports submitted to the Department. To ease the certification burden on the Permittee, the condition allows the excess emission reports to be certified with the stationary source report, even though it must still be submitted more frequently than the operating report. This condition supplements the reporting requirements of this permit.

Condition 72, Submittals

Applicability: Applies because the Permittee is required to send reports to the Department.

Factual Basis: This condition requires the Permittee to send submittals to the address specified in this condition. Receipt of the submittal at the correct Department office is sufficient monitoring for this condition. This condition supplements the reporting requirements of this permit.

Condition 73, Information Requests

Applicability: Applies to all Permittees, and incorporates a standard condition.

Factual Basis: This condition incorporates a standard condition in regulation, which requires the Permittee to submit information requested by the Department. Monitoring consists of receipt of the requested information.

Condition 74, Recordkeeping Requirements

Applicability: Applies because the Permittee is required by the permit to keep records.

Factual Basis: The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The records being kept provide evidence of compliance with this requirement.

Condition 75, Excess Emission and Permit Deviation Reports

Applicability: Applies when the emissions or operations deviate from the requirements of the permit.

Factual Basis: This condition satisfies two state regulations related to excess emissions- the technology-based emission standard regulation and the excess emission regulation. Although there are some differences between the regulations, the condition satisfies the requirements of each regulation.

The reports themselves and the other monitoring records required under this permit provide monitoring of whether the Permittee has complied with the condition. Please note that there may be additional federally required excess emission reporting requirements.

Condition 76, NSPS and NESHAP Reports

Applicability: Applies to facilities subject to NSPS and NESHAP federal regulations.

Factual Basis: The condition supplements the specific reporting requirements in 40 C.F.R. 60 and 40 C.F.R. 61. The condition does not need any MR&R. The reports themselves provide monitoring for compliance with this condition.

Condition 77, Operating Reports

Applicability: Applies to all permits.

Factual Basis: The condition restates the requirements for reports listed in the regulation. The condition supplements the specific reporting requirements elsewhere in the permit and does not need MR&R. The reports themselves provide monitoring for compliance with this condition.

Condition 78, Annual Compliance Certification

Applicability: Applies to all Permittees.

Factual Basis: This condition specifies the periodic compliance certification requirements, and specifies a due date for the annual compliance certification. Because this requirement is a report, no MR&R is needed.

Conditions 79 through 85, Standard Conditions

Applicability: Applies because these are standard conditions to be included in all permits.

Factual Basis: These are standard conditions required for all operating permits.

Condition 86, Permit Shield

Applicability: Applies because the Permittee has requested a shield for the applicable requirements listed under this condition.

Factual Basis: Table 3 of Operating Permit No. AQ0417TVP01 shows the permit shields that the Department granted to the Permittee. The permit conditions set forth the requirements that the Department determined were not applicable to the stationary source.